

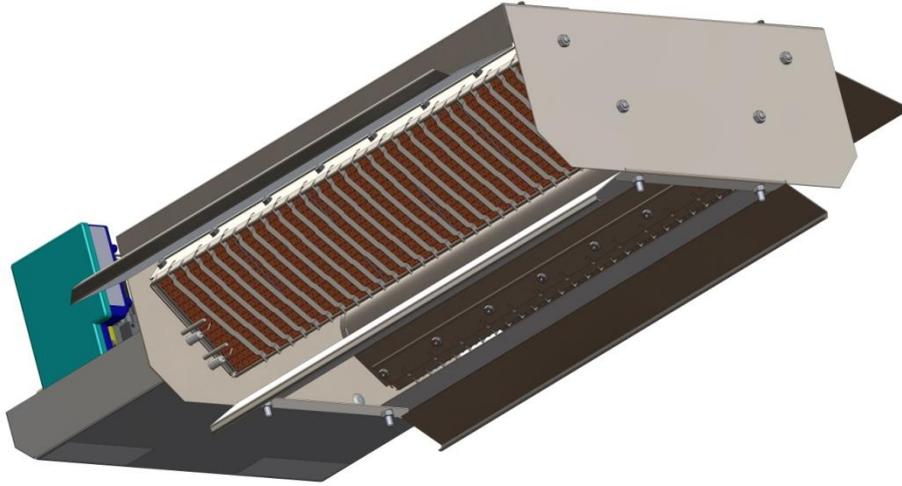


212-216 XLA-I HEATERS

INSTALLER INSTRUCTIONS

(INSTALLATION - MAINTENANCE - CHANGING GAS)

N° 05000543/9



Luminous radiant heaters for low ceiling buildings
Stainless steel burner
Stainless steel body
Electronic igniton and flame control

Üretici :
SBM
3 cottages de la Norge
21490 CLENAY
FRANCE
[http ://www.sbm-international.net](http://www.sbm-international.net)

Türkiye Genel Distribütörü :
NET ISI San. ve Tic. Ltd. Şti.
Hasanpaşa Mah. Lavanta Sokak No:16
Etab İş Mrk. A Blok. K:2 D:7
34722 Kadıköy / İSTANBUL
☎ : +90 (216) 327 40 27
☎ : +90 (216) 327 41 01
www.netisi.com.tr

CE 0461

SUMMARY

1. WARNINGS	Page	3
2. PRODUCT SPECIFICATION	Pages	4 to 6
2.1 Description		4
2.2 Technical specifications		5
2.3 Heater dimensions		6
3. INSTALLATION	Pages	6 to 17
3.1 Rules and regulations		6
3.2 Diagram of installation		6
3.3 Unpacking and checking of equipment		7
3.4 Heater assembling		8 to 11
3.5 Fixing of heaters		11
3.6 Minimum safety distances		12
3.7 Inclination of heaters		12
3.8 Gas connection		13
3.9 Electrical connection		14 to 15
3.10 Start-up		15 to 17
4. RECEIPT OF INSTALLATION	Page	18
5. MAINTENANCE	Page	19
6. REPAIRS	Pages	20 to 22
7. CHANGING THE GAS USED	Page	23

GENERAL

- *In the process of continuous improvement, SBM products may be modified without notice.*

1. WARNINGS

In this manual, symbol  means "**IMPORTANT**"

In this manual, symbol  means "**DANGER**"



Installation and maintenance of the heaters will be done by a qualified technician.



This appliance must be installed in accordance with the local regulations.



It shall be used in a space ventilated in accordance with the requirements of EN 13410.



Consult the instructions before installation and maintenance of this appliance.



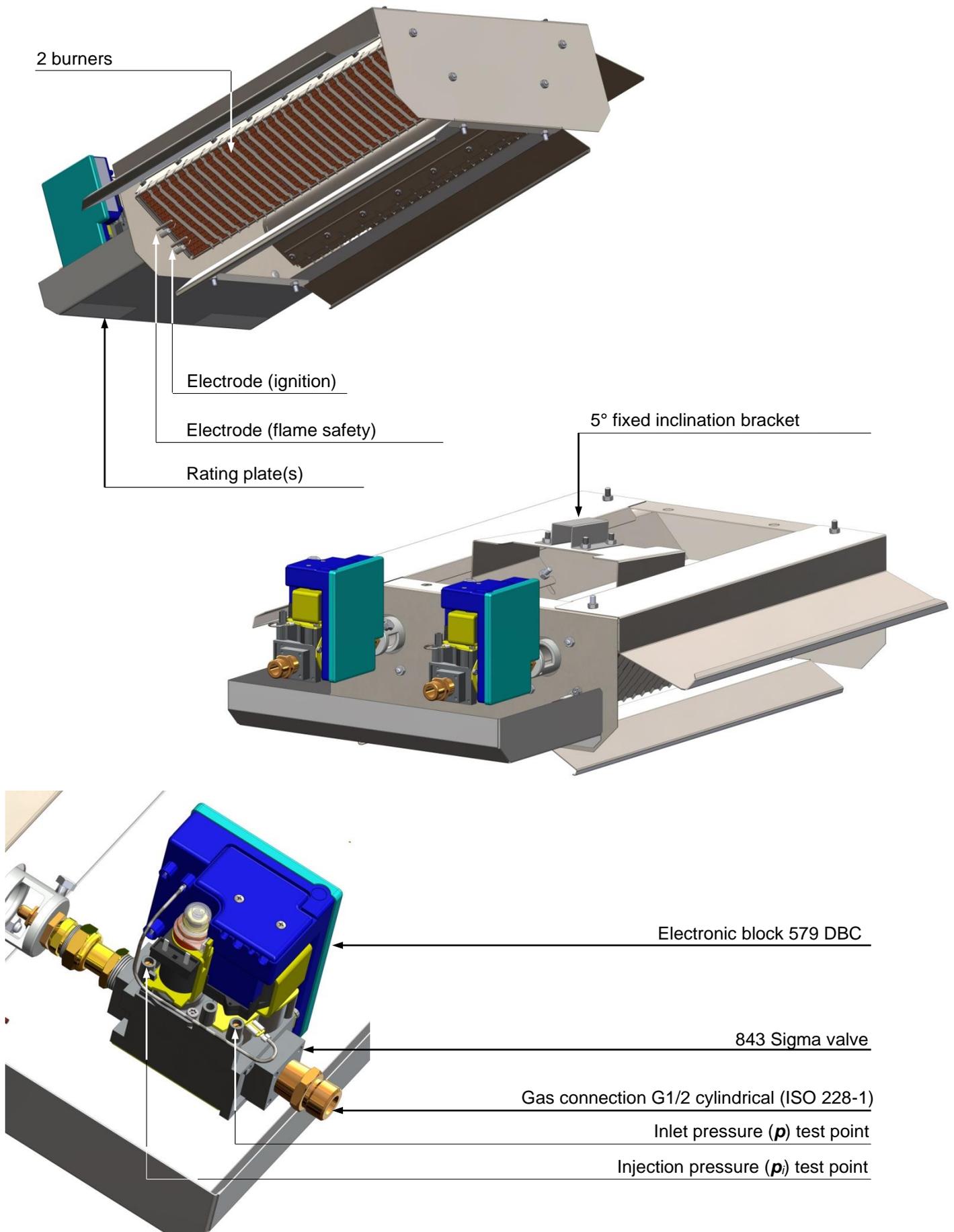
Switch-off the appliance and close the gas valve before carrying out any service operation.



This manual, as well as the user's manual, must be given to the user at the end of the work.

2. DESCRIPTIF TECHNIQUE

2.1 Description



2.2 Technical specifications

GAS : G20 (GN-H) - Category : I₂Es_i TR

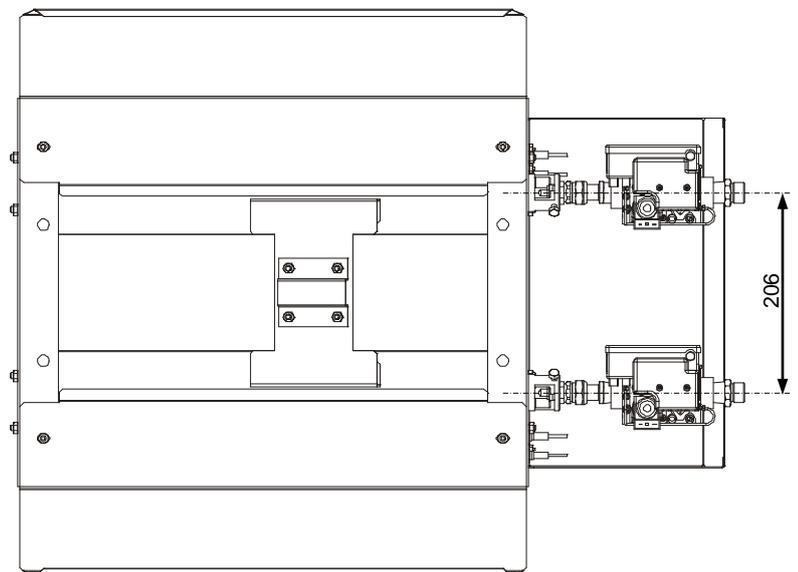
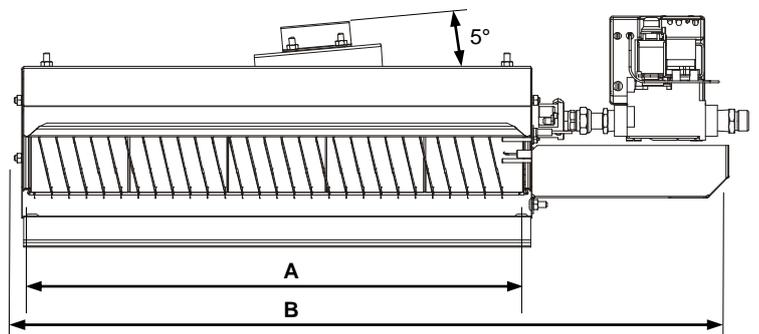
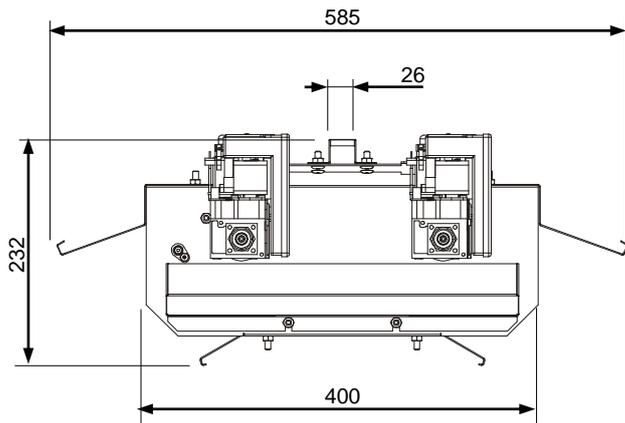
MODEL		212 XLA-I	216 XLA-I
P.I.N. C€		0461 CM 0994	
Class NOx		5(<50mg/kWh)	
Weight	(kg)	8.50	9.60
Net calorific value	ΣQn Hi (kW)	10.20	13.60
Gross calorific value	ΣQn Hs (kW)	11.33	15.10
GAS			
Nominale inlet pressure	(mbar)	20	
Minimale inlet pressure	(mbar)	17	
Maximale inlet pressure	(mbar)	25	
Maximale injection pressure p_i	(mbar)	15.0	16.0
Minimale injection pressure p_i	(mbar)	7.0	7.0
Volumetric flow rate	(m ³ /h)	1.08	1.43
Primary orifice (restrictor)	(1/100 mm)	-	-
Orifice (injector)	(1/100 mm)	2 x 180	2 x 205
Gas input connection		Fitting G1/2" cylindrical (ISO 228-1)	
Evacuation of combustion products		Type A ₁ (not connected)	
ELECTRICITY			
Power supply		230V (+10% -15%) – 50Hz Neutral mandatory	
Consumption	(VA)	2 x 19	
Individual fast acting fuse 5x20 (RP32)	(A)	2x0.25	
Ignition cycle length		30 seconds maxi	
VENTILATION			
Combustion air	(m ³ /h)	10.60	14.00
Required air change	(m ³ /h)	102	136

GAS : G31 (Propane) - Category : I₃P TR

MODEL		212 XLA-I	216 XLA-I
P.I.N. C€		0461 CM 0994	
Class NOx		5(<50mg/kWh)	
Weight	(kg)	8.50	9.60
Net calorific value	ΣQn Hi (kW)	10.20	13.60
Gross calorific value	ΣQn Hs (kW)	11.09	14.78
GAS			
Nominale inlet pressure	(mbar)	37	
Maximale injection pressure p_i	(mbar)	36 : blocked regulator	
Minimale injection pressure p_i	(mbar)	12.0	12.0
Mass flow rate	(kg/h)	0.80	1.06
Primary orifice (restrictor)	(1/100 mm)	2 x 180	-
Orifice (injector)	(1/100 mm)	2 x 125	2 x 135
Gas input connection		Fitting G1/2" cylindrical (ISO 228-1)	
ELECTRICITY			
Power supply		230V (+10% -15%) – 50Hz Neutral mandatory	
Consumption	(VA)	2 x 19	
Individual fast acting fuse 5x20 (RP32)	(A)	2x0.25	
Ignition cycle length		30 seconds maxi	
VENTILATION			
Combustion air	(m ³ /h)	9.60	12.60
Required air change	(m ³ /h)	102	136

2.3 Dimensions des radiants

212 and 216 XLA-I



MODEL	212 XLA-I	216 XLA-I
A (mm)	380	505
B (mm)	606	730

3. INSTALLATION

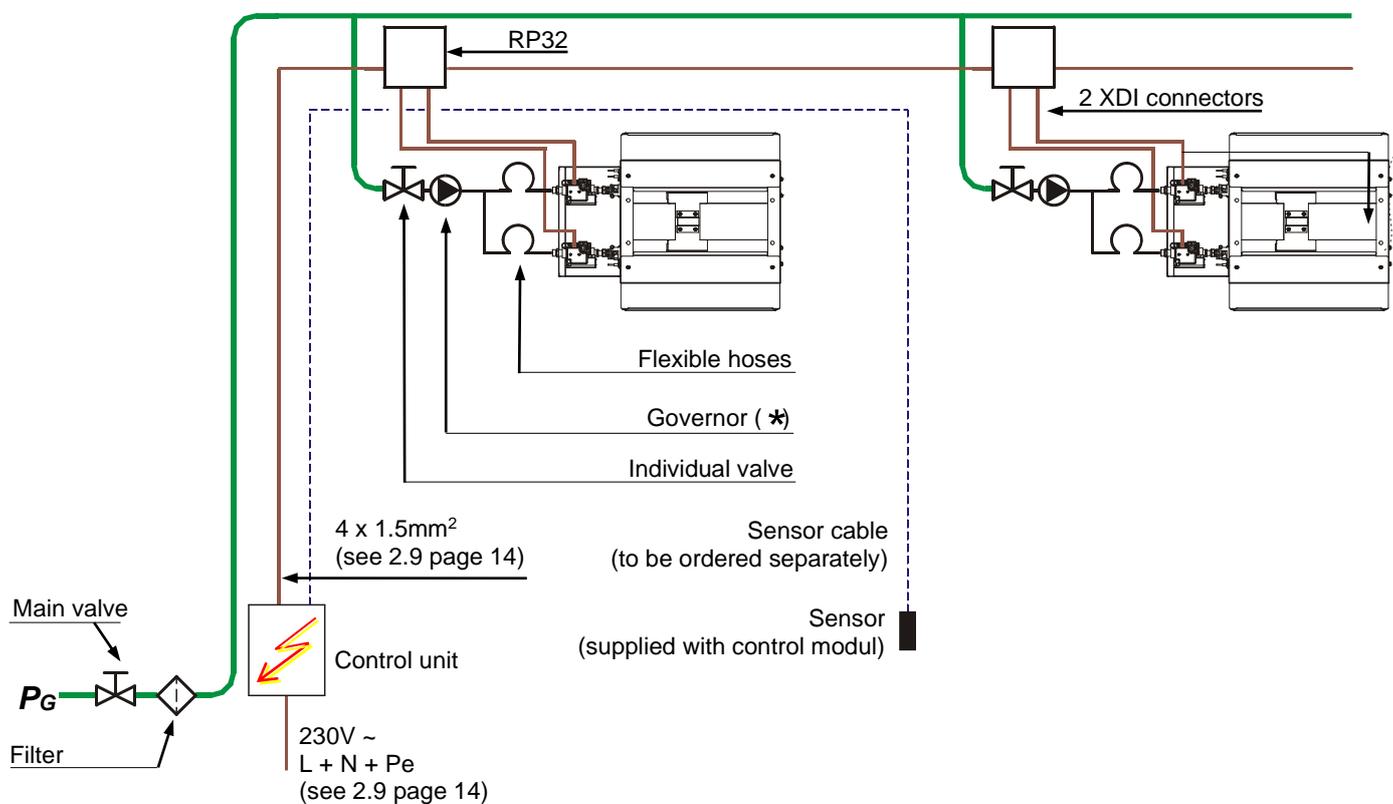


Before installation, check that the local conditions of supply, gas type / pressure and equipment settings are compatible.

3.1 Rules and regulations

- SBM infrared heaters are **CE** approved in Turkey.
- The premises must be ventilated in accordance with the norm EN13410.
- Building, gas, electric and safety national regulations.
- Not for domestic use.

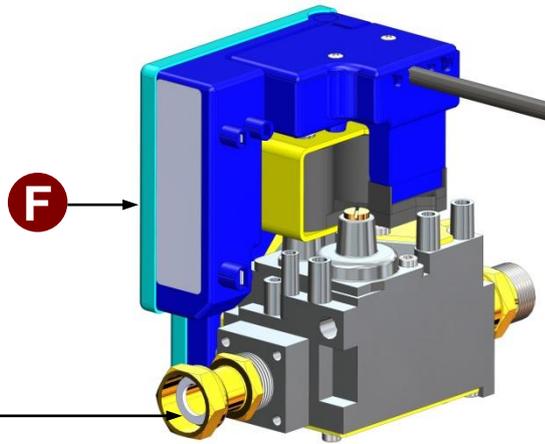
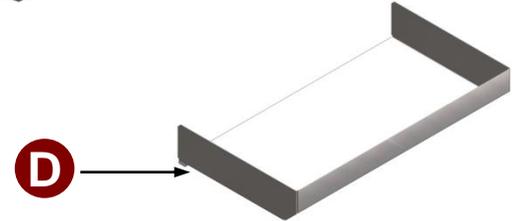
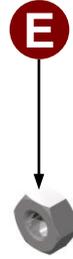
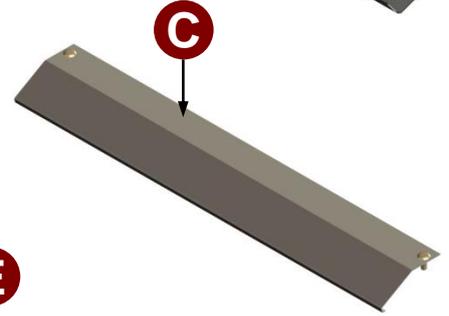
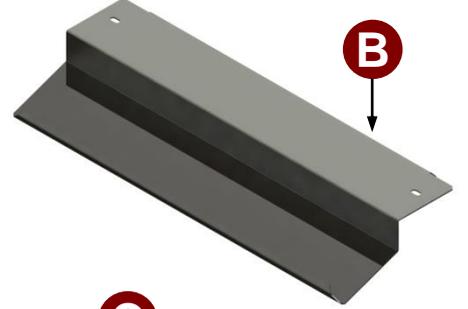
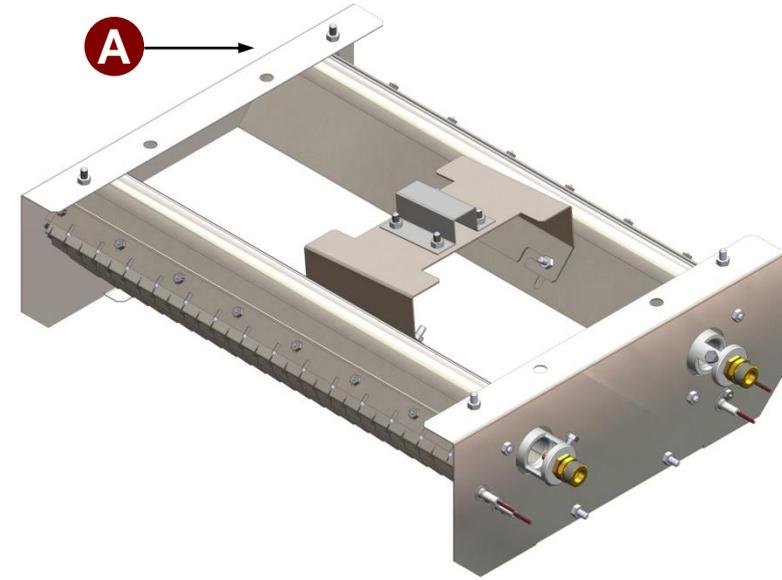
3.2 Diagram of a standard installation



*** Use appropriate gas governor if P_G is greater than the nominal pressure P of the heaters.**

3.3 Unpacking and checking of equipment

- Check the type and quantities of equipment against your order.
- Check that packing and equipment are intact.
If this is not the case, register a complaint to this effect with the carrier.
- Check gas type and pressure to be used on heaters.
- Check box content.



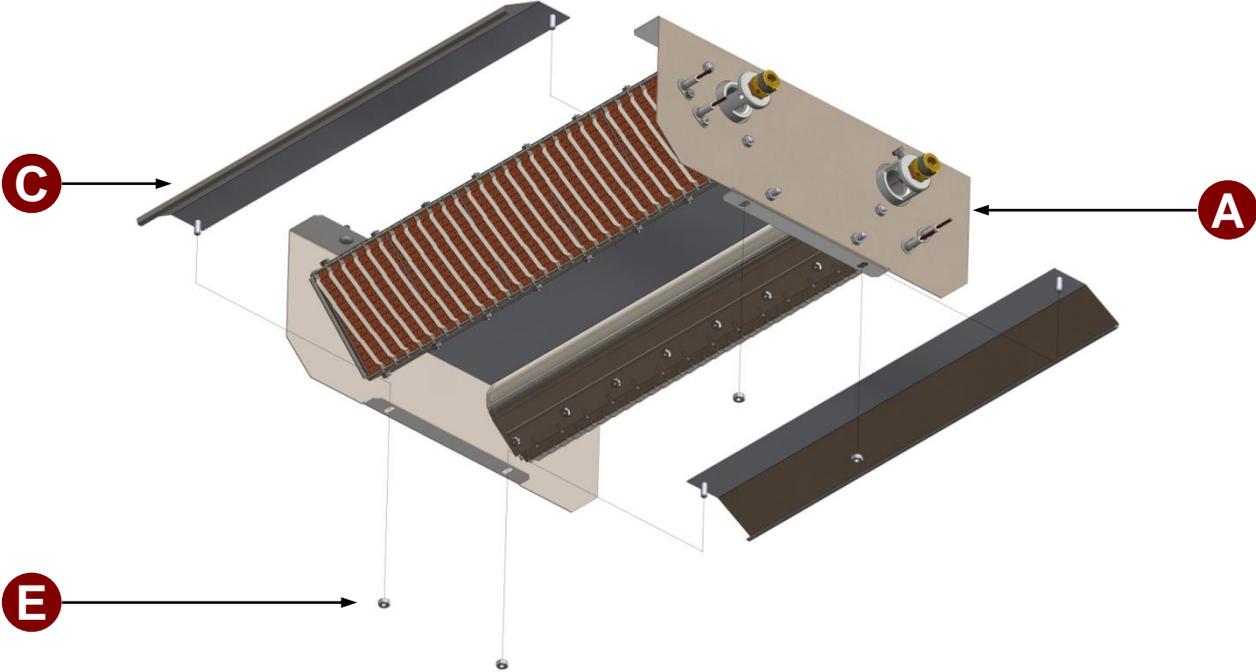
Washer



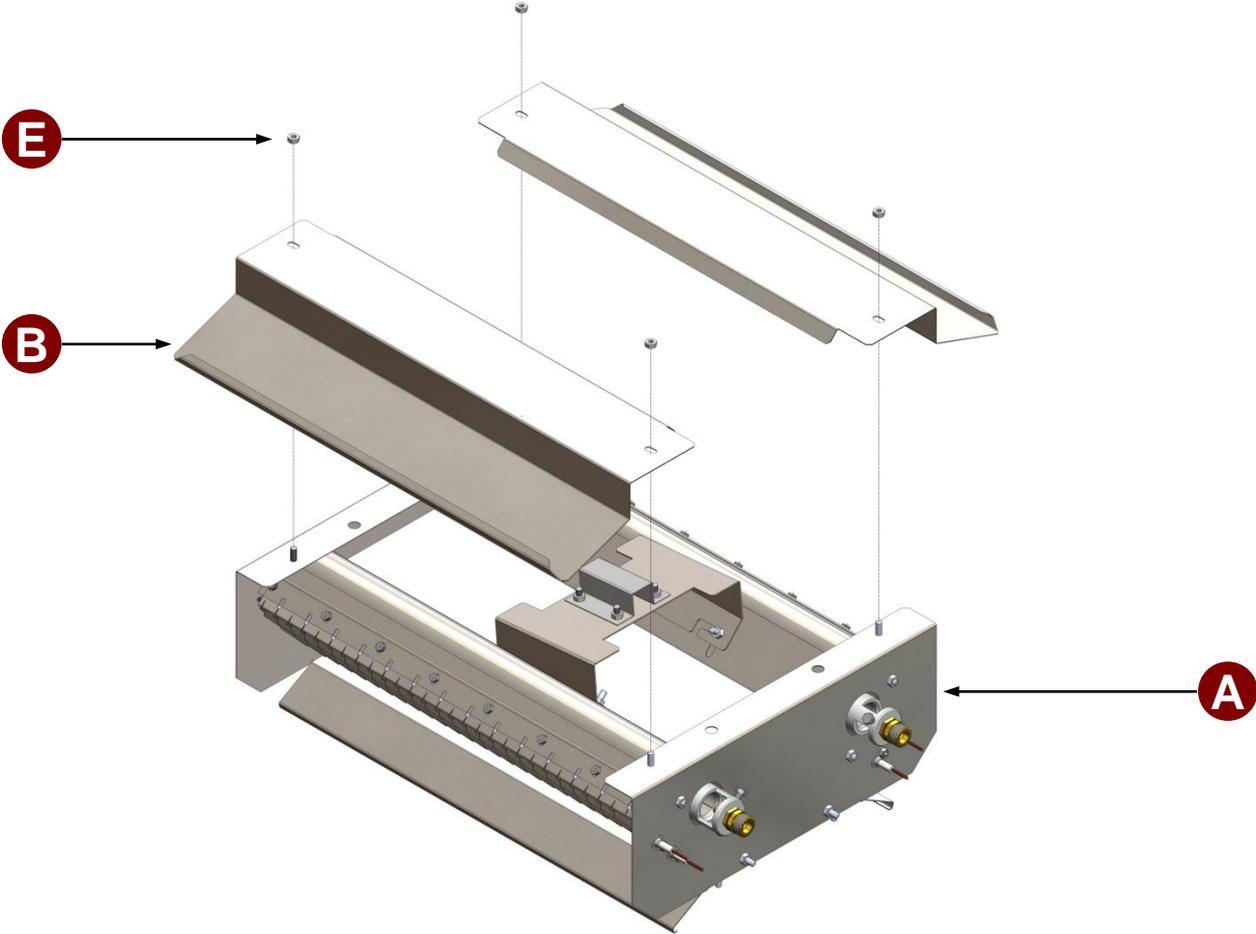
REP.	PART	QUANTITY
A	Heater	1
B	Top reflector	2
C	Bottom reflector	2
D	Protection box	1
E	Nut H M6	8
F	843 SIGMA valve + electronic block 579 DBC + cable 1.6m assembled	2
G	User instructions in Turkish	1

3.4 Heaters assembling

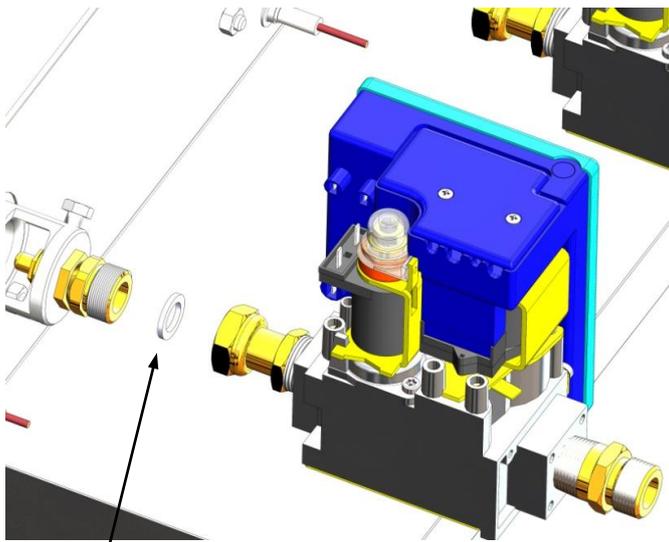
- Assembly of the bottom reflectors.



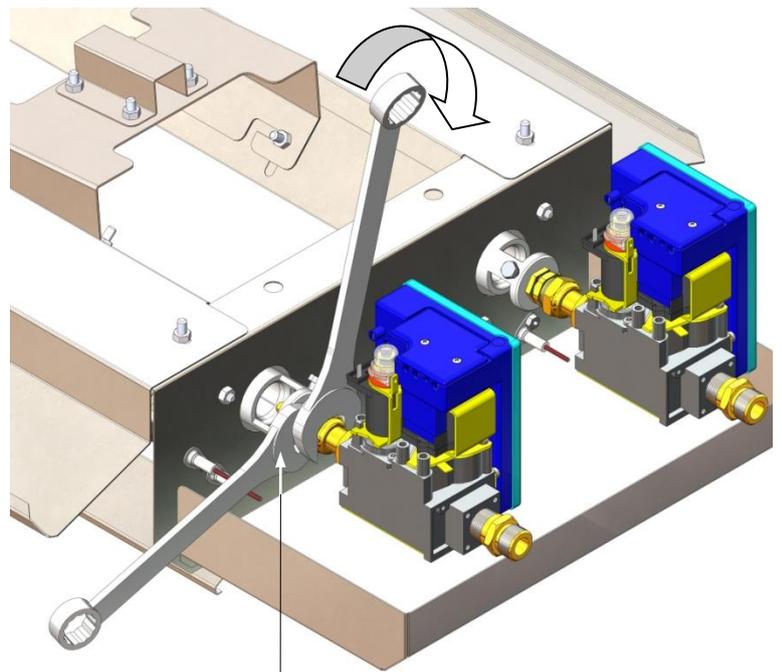
- Assembly of the top reflectors.



❑ 843 SIGMA assembling



Washer



Maintain the injector block during clamping

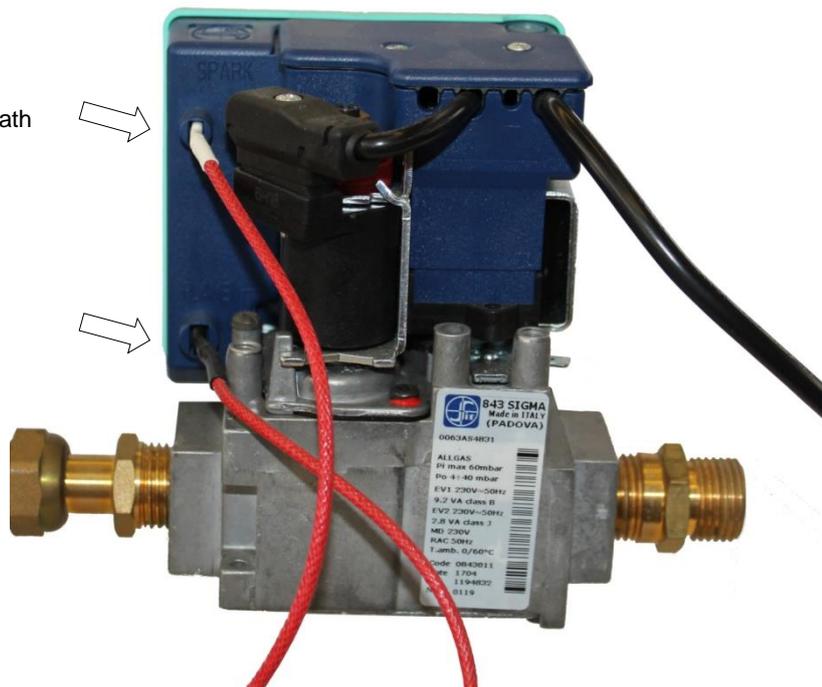


Repeat this operation for the second valve.

❑ Connection of electrodes.

Ignition electrode :
Clip 2.8x0.5 white sheath

Flame detector
Clip 4.8x0.8 black sheath



3.5 Fixing of heaters

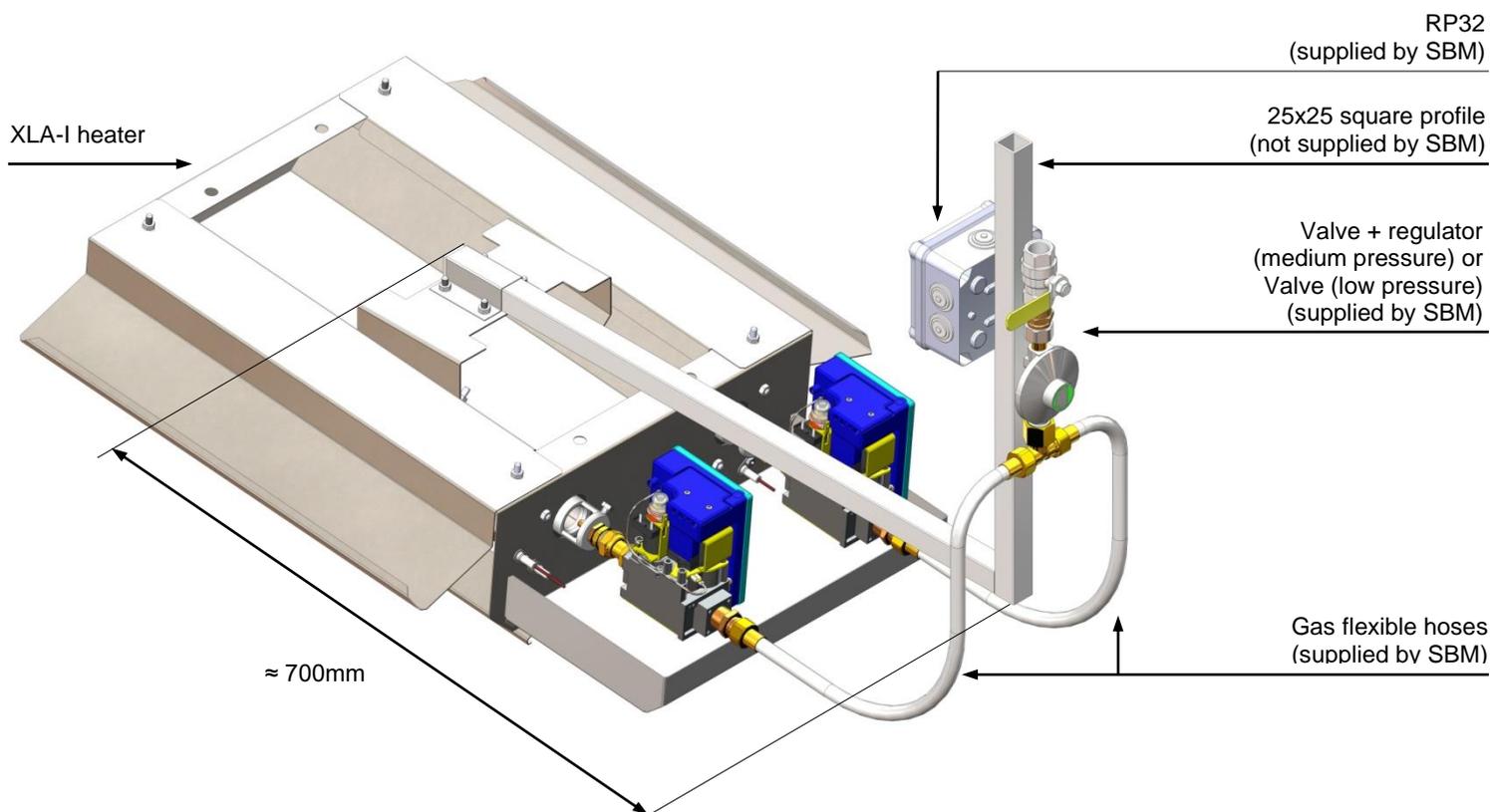
- ☐ Minimum recommended safety heights.

MODEL	MIN HEIGHT (m)
212 XLA-I	2.20
216 XLA-I	2.60

- ☐ Comfort recommended heights.

MODEL	COMFORT HEIGHT (m)
212 XLA-I	4.00
216 XLA-I	4.40

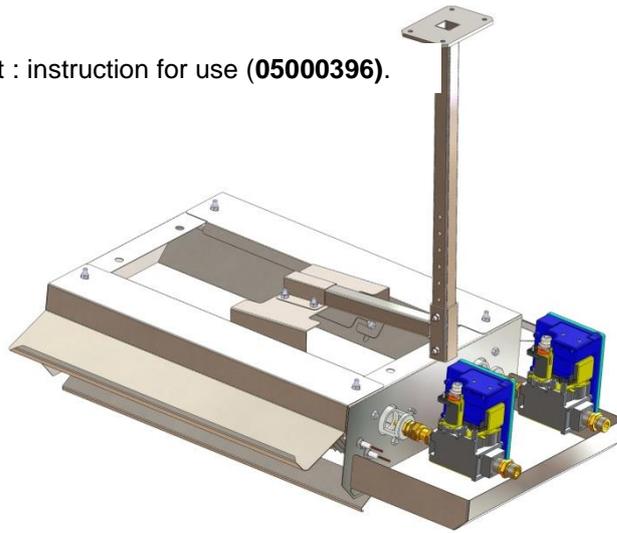
- ☐ Examples of fixture to be supplied by the installer.



- Example of fixture with XD/XDI bracket (supplied by SBM).

With this bracket, possibility of fixing the heater to the ceiling.

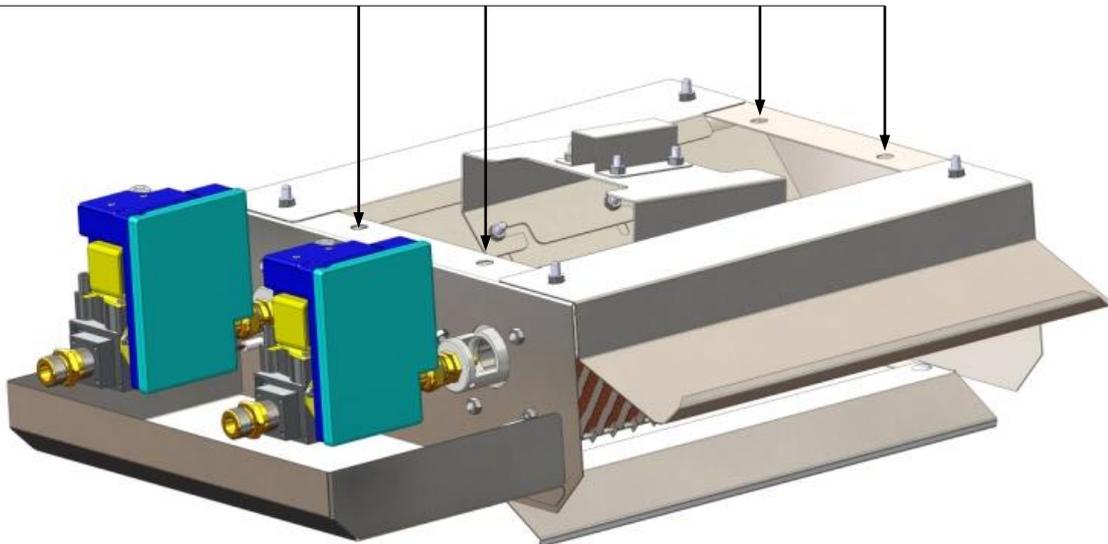
Mounting the bracket : instruction for use (05000396).



SBM ref	Designation	Use
5710000	BRACKET XD/XDI	212 and 216 XLA-I

- Possibility of fixing with chains or cables.

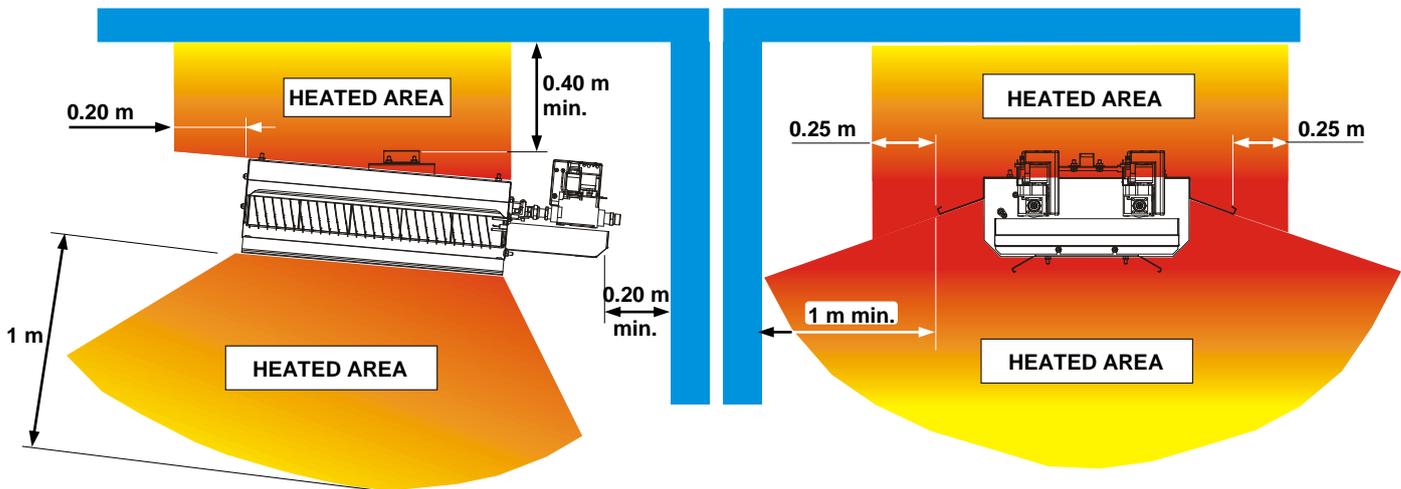
the XLA-I heaters are provided of 4 holes hallowing fixing with 4 chains or 4 withholding cables (5° inclination must be respected).



In case of heater fixing with withholding cables , the locking system mustn't be located in the heating area of the heater : risk of system melting and heater fall.

(see 3.6)

3.6 Minimum safety clearances



Do not locate in heated areas, inflammable materials ($\theta_{max} = 70^{\circ}\text{C}$), gas piping and electrical wiring.



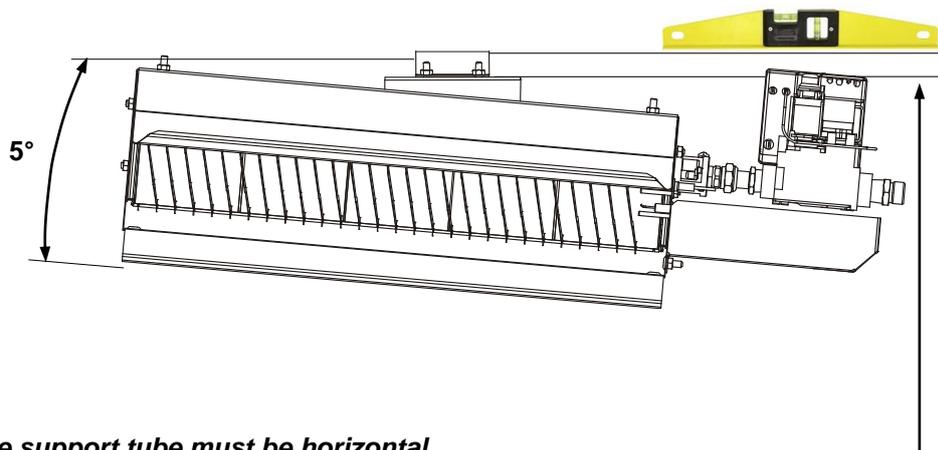
Where safety clearances cannot be respected, heat-protection must be provided above the heaters.



In case of heater fixing with witholding cables, the locking system must not be located in the heating area of the heater : risk of system melting and heater fall. (voir 3.5)

3.7 Inclination of heaters

- The XLA-I luminous radiant heater is automatically set at 5° from the horizontal.



The support tube must be horizontal.

3.8 Gas connections



Before installation, check that local conditions of supply, gas type, gas pressure and setting are compatible.



Gas supply piping must not be located in the heating area of the heater .
(voir 3.6)



**Gas supply piping must not produce any stress on the SIGMA valve of the heater :
Use preferably a metallic hose 12 Gf.**

MEDIUM PRESSURE gas supply.

Gas supply pressure P_G greater than heater nominal inlet pressure
(see tables page 5).

GAS	GAS SUPPLY PRESSURE
G20	200 mbar to 1.5 bar maxi
G31	500 mbar to 1.5 bar maxi

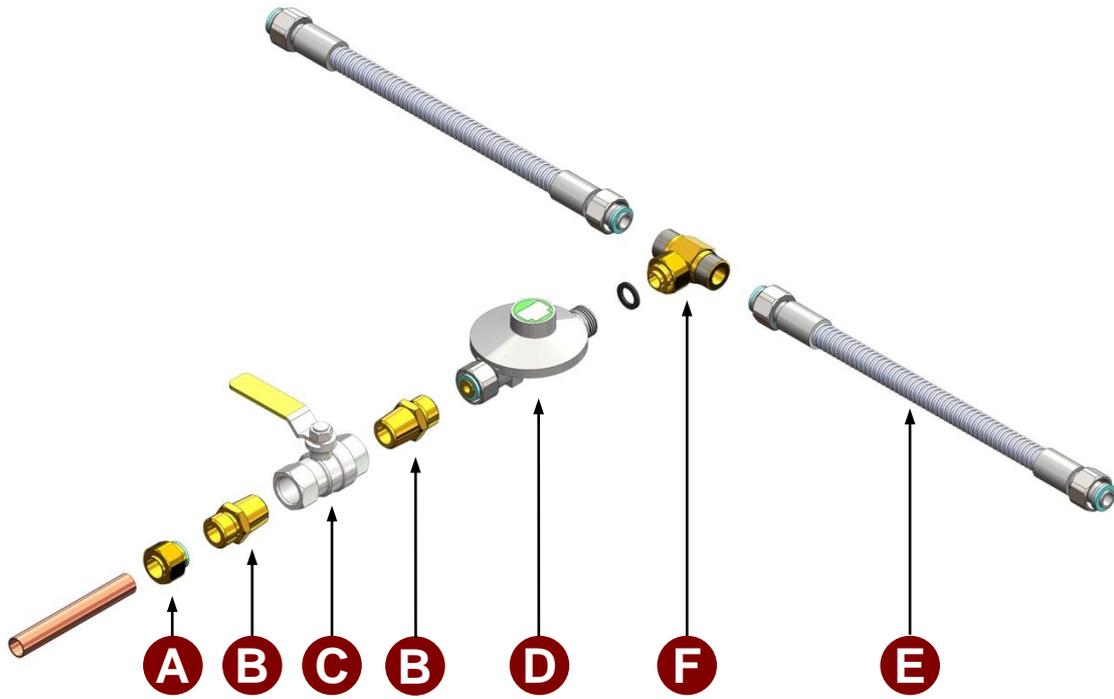
LOW PRESSURE gas supply.

Gas supply pressure P_G identical to heater nominal inlet pressure
(see tables page 5).

GAS	GAS SUPPLY PRESSURE
G20	20 mbar
G31	37 mbar

Same accessories than medium pressure, except regulator **D** not required.
(See tables page 15).

□ Gas supply



		A	B	C	D		E	F
					ENS RAS 14 G1/2			
					UNION FITTING R1/2m-G1/2m			
					VALVE DN15 SS PDC E/S Rp1/2			
					DF64 G1/2 G31-37 4KG/H			
					DF64 G1/2 G20-20 3M3/H			
					DF64 G1/2 G20-20 4BAR 6M3/H			
					METALIC HOSE GAS G1/2f 700mm			
					TE FITTING G1/2 l:nut O:male			
9805044	GAS KIT 2x0.7m G20 0.3b	1	2	1	-	1	-	2 1
9805048	GAS KIT 2x0.7m G31 1.5b	1	2	1	1	-	-	2 1
9805051	GAS KIT 2x0.7m G20 4b	1	2	1	-	-	1	2 1
9805054	GAS KIT 2x0.7m BP	1	2	1	-	-	-	2 1

3.9 Electrical connections

See diagram of a standard installation (see 3.2 page 7)



Electrical connections must comply with electrical regulations.



All heaters must be GROUNDED.



Electric cables and the electrical junction box must not be positioned in the heated area around the heater(see 3.6 page 13)

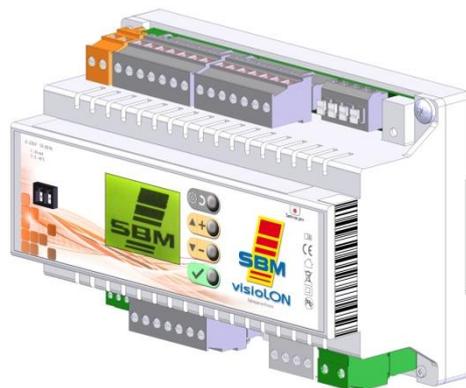
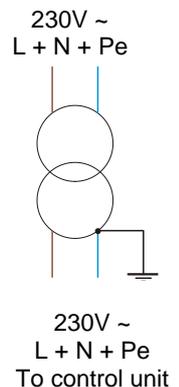


No tension, even momentary between NEUTRAL conductor and GROUNDED CONDUCTOR

In case of installation without Neutral (or neutral of bad quality), use an isolation transformer in order to create an artificial neutral. For that, connect one outlet socket to the ground.



Control: **XLA-I** heaters are controlled by **VisioLon Ind-I** programmable controller **VisioLon Ind-I** (supply SBM: **8050202**)
See technical instruction **05000635**.



Each control unit can drive **2 heating zones separately**.

This control unit must be installed in an electrical enclosure.

CONTROL ENCLOSURE KIT 2 ZONES (supply SBM : **9704014**), including :

- A waterproof enclosure IP65 12 modules with translucent door and ground connections
- A differential breaker 16A - 30mA

This kit allow the installation of the control unit for drive **40 heaters maximum** per area.

CONTROL ENCLOSURE.REL. 2 ZONES (supply SBM : **9704015**), including :

- A watertight enclosure IP65 12 modules with translucent door and ground connections
- A differential breaker 16A - 30mA
- 2 relay 230VAC 10A

This kit allow the installation of the control unit for drive **100 heaters maximum** per area.



Location sensor (1 per area)

- Position the sensor to about 1,5 m from the ground, between two heaters, for receive a homogeneous radiation.
- Don't position sensor directly in the sun ray.
- Provide protection(shield) for the wall where is the sensor for avoid the cold radiation wall, by use insulating material between them(glass wool, wood, etc...).

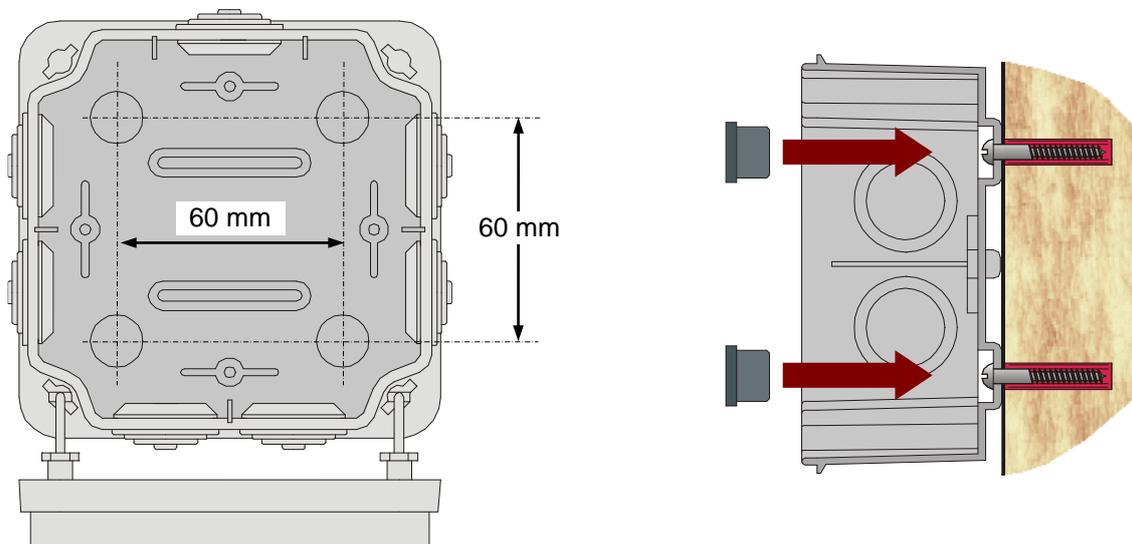
- The connection between sensor and control unit must be done with electrical shielded cable SBM

RX SENSOR CABLE 20m (supply SBM : **8791000**)
RX SENSOR CABLE 60m (supply SBM : **8791001**)
RX SENSOR CABLE 300m (supply SBM : **8791002**)

- Types of connection cable.

LIAISON	TYPE OF CABLE
Control unit to RP32 (and RP32 to RP32)	U1000 RO 2V 4G1,5
RP32 to heater	Use the connectors supplied with the heater.
Control unit to sensor	Use the coaxial cable supplied by SBM. (in 20m, 60m or 300m roles)

- Number of RP32 : 1 RP32 per heater XLA-I.
- Fixing RP32 units : see instructions supplied in box.



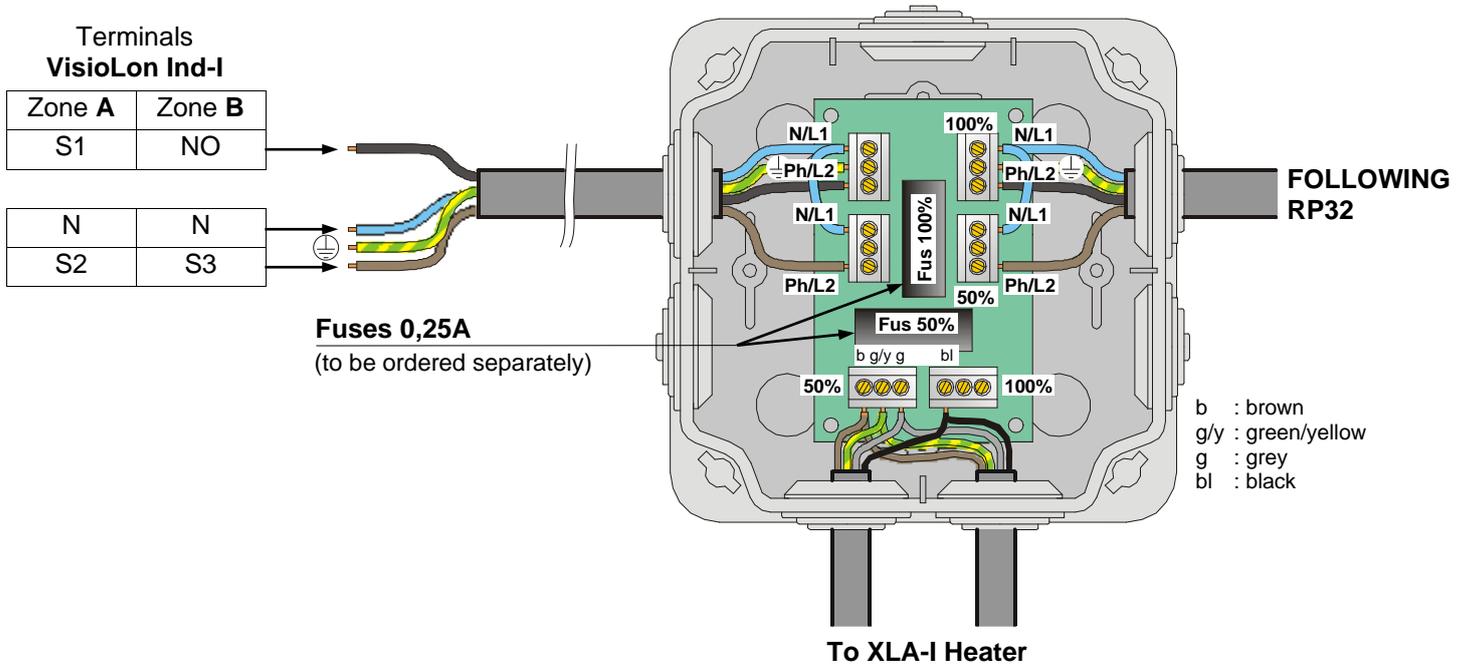
 **Always place the plastic cover back on the top of the screw head.**

 **The RP32 box must be located less than 1.6 meter away from the electronic blocks 579 DBC, as the connector is 1.6 m long.**

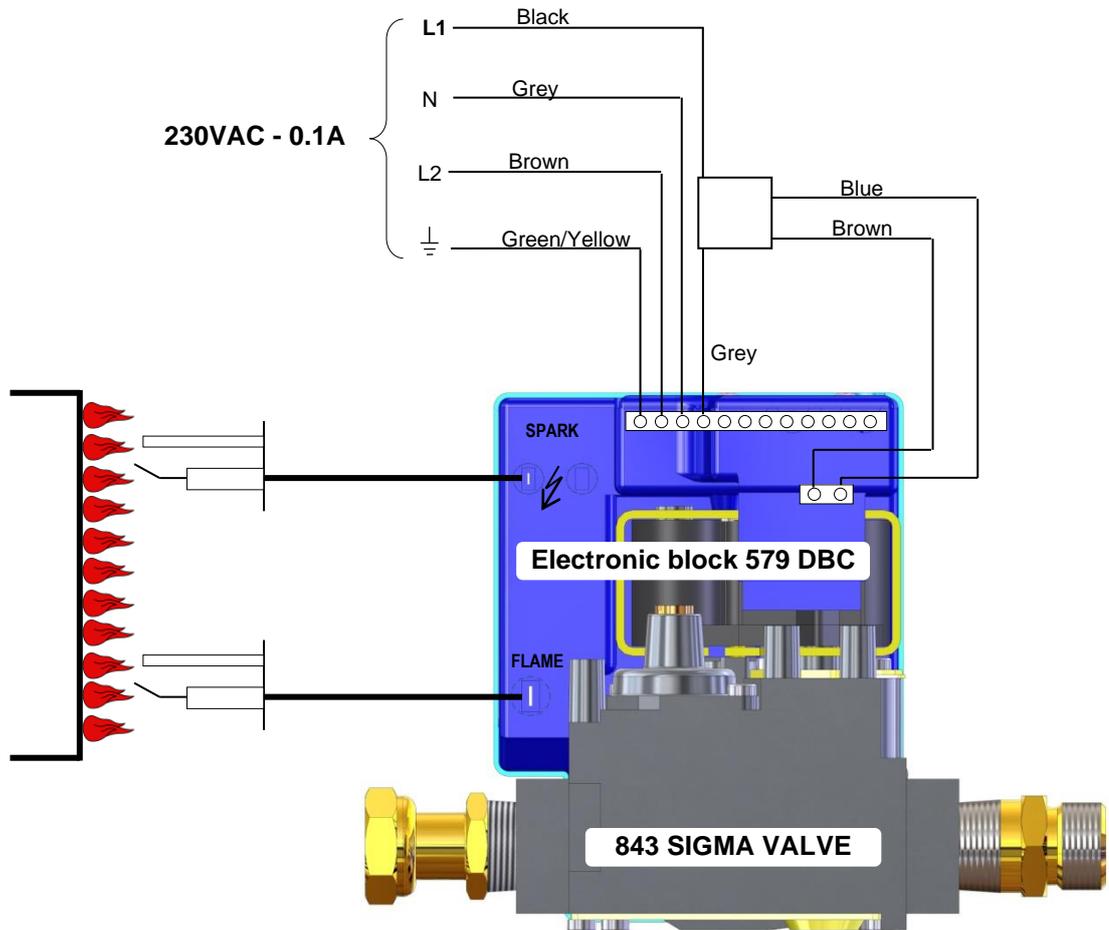


It must not be located in the heated area around the heater (voir 3.6 page 13)

- ❑ Wire RP32's as shown in the diagram below.



- ❑ Internal electrical diagram of heater (by burner)

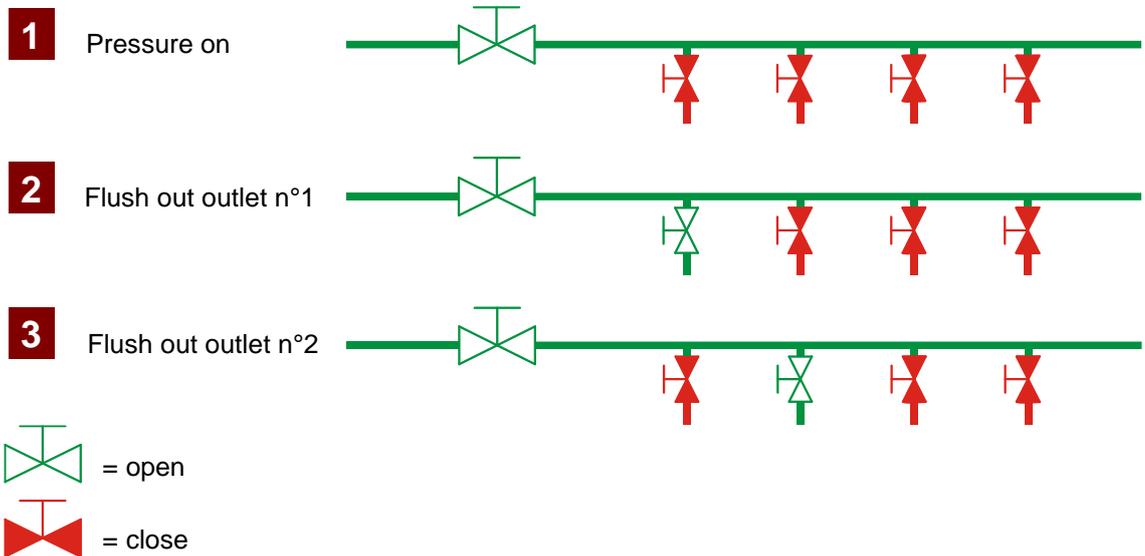


3.10 Start up

- Clean out.

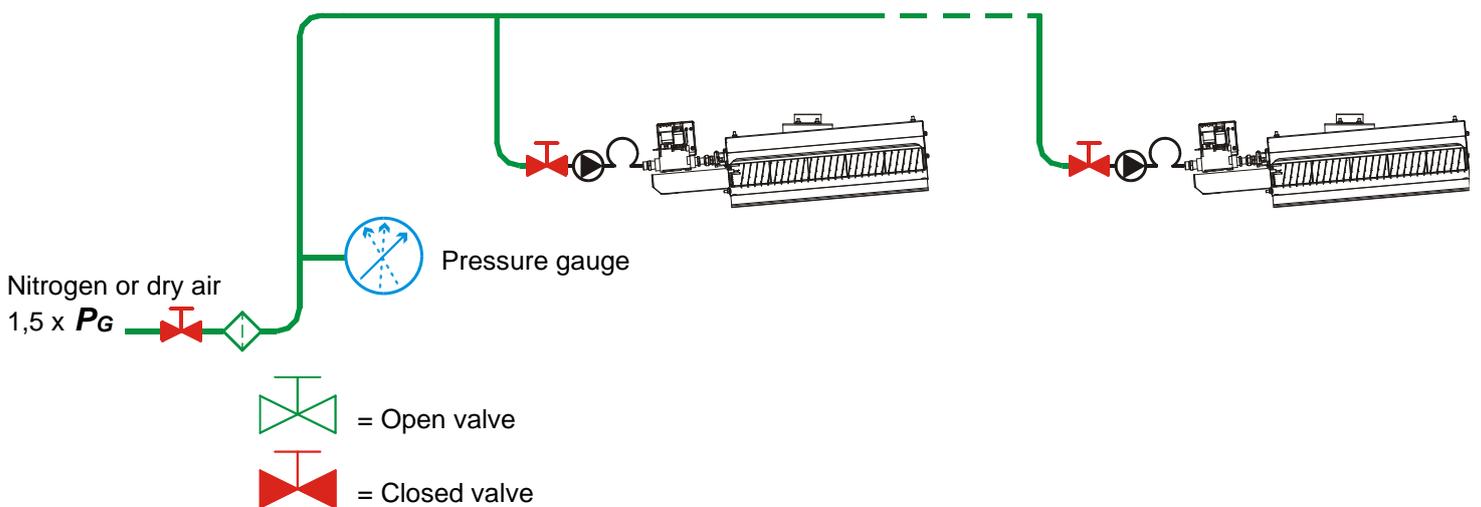
Objective : flush out impurities in the gas piping.

Principle: clean out gas piping with dry air, or even better with nitrogen, **AFTER DISCONNECTING ALL ACCESSORIES.**



- Gas-tightness test for industrial installations (see diagram next page)

- Ensure that the installation is at a pressure (nitrogen or dry air) equals to 1.5 times the gas operating pressure P_G
- Turn off the nitrogen or dry air supply and wait 15 minutes for the pressure to stabilise.
- Check the pressure gauge.
- After two hours, the pressure gauge need must still show **the same pressure**.
- If pressure has dropped, detect leaks with a foaming product, fix them and repeat the operation.



**This principle in only a guideline.
Local regulations may apply.**

□ First start-up.

a) Preliminary checks:

- * check calibration of control unit fuses.
- * ground fault breaker operation ("TEST" button).

b) Initial settings:

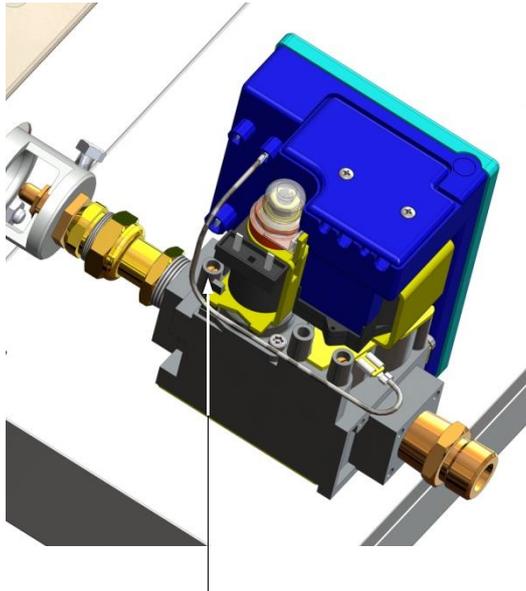
- * main valve closed.
- * heaters valves open.
- * ground fault breaker set to "ON".
- * thermostat or programmable controller set to correct temperature setting (see the technical instruction of the heating control module).

c) Start-up

- * open the main gas valve.
- * Put the ignition switch on "I / ON"
- * Check the operating cycle:
 - . Ignition with a set of sparks
 - . If the heater does not lit after 30 seconds, then it goes to the safety state
 - . The sequence of ignition can begin again only after switching the power off. After 5 seconds, switch the power on.
 - . The heater is on as long as: power supply is on and the valves are opened.
 - . If for any reason, the flame is no longer lit, the heater starts a new ignition cycle.

d) Injection pressure p_i check

- * The injection pressure of each heater p_i must be set to the value indicated in the corresponding tables (see 2.2 page 5 and 6).



Injection pressure p_i (test point)

* Procedure :

- . Unscrew the pressure test point screw (2 or 3 turns)
- . Connect a pressure gauge (adapted to the value to be measured) to the pressure test point.
- . If value differs than the theoretical value from table, check the supply pressure and the cleanness of the gas filters.
- . Remove the pressure gauge.
- . Re-tighten the pressure test point screw.



Do not forget to re-tighten the pressure test point screw !



Injection pressures must be set while **all the heaters are running**.

e) Tightness of heater connection

* for each heater, check gas tightness with a foaming product, from the output of the individual valve to the injector until the output fitting of the 843 SIGMA valve.

4. RECEIPT OF INSTALLATION



TO BE PERFORMED BY THE INSTALLER IN THE PRESENCE OF THE CUSTOMER.

- Check that **the gas type and pressure comply with** the type of heater installed (see rating plate)
- Check that an **individual valve** is installed prior to each heater.
- Check that the "**XLA-I USER GUIDE**" (last page of user instructions, include in the heater box) is displayed next to the control unit, after being **stamped by the installer**.
- Provide the customer with **a copy of each XLA-I USER INSTRUCTIONS** supplied in the product boxes.
- Indicate to the customer the **locations** of :
 - **valves.**
 - **electric switches.**
 - **control units.**
- Explain** to the customer how all **control units operate**.
- Plan the **initial maintenance visit (1 year** after start-up).



Deliver to the customer a copy of each user instructions included in products cardboard and this installer instructions.

5. MAINTENANCE

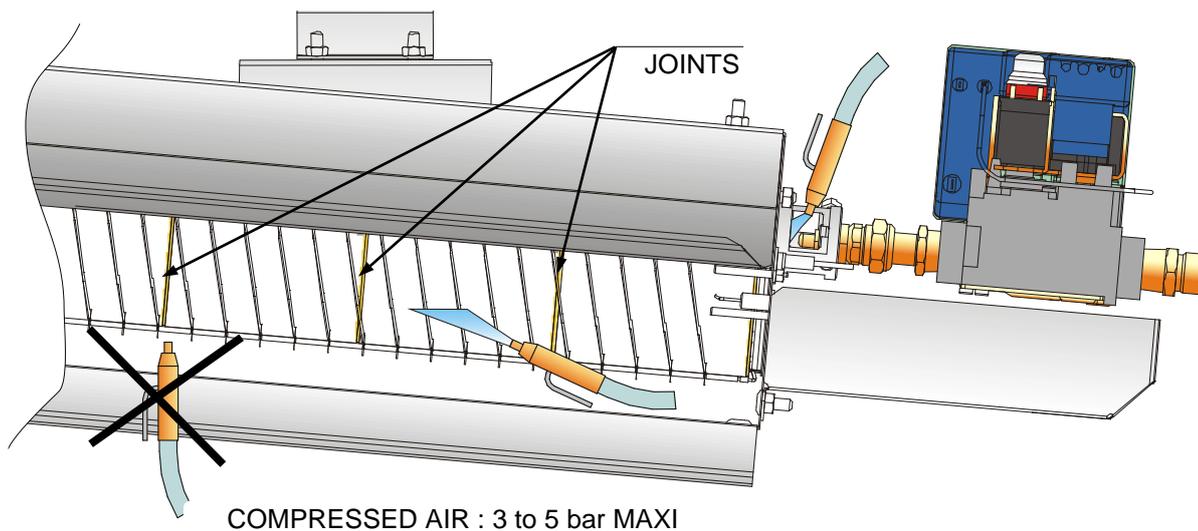


Switch off the heater and close the gas valve before the execution of maintenance operations.



List of operations to be performed during the annual maintenance visit.

- Removal of dust from heaters.
 - on site, without disassembly, heaters off and cold.



Don't blow aiming at joints between ceramic plates : risk of damaging the burner.

- Check condition of ceramic plates (**visual** inspection).
- Check heater fixture.
- Check tightness of gas accessories.
- Check heater operation.

Switch on all heaters, check ignition and combustion. A combustion temperature of approximately 900°C (uniform orange red colour) ensures heater cleanliness and correct gas supply pressure.

- Check operation of solenoid valves.

Check that all solenoid valves properly close (heaters switched off).

- Check controls.
- Check all settings.



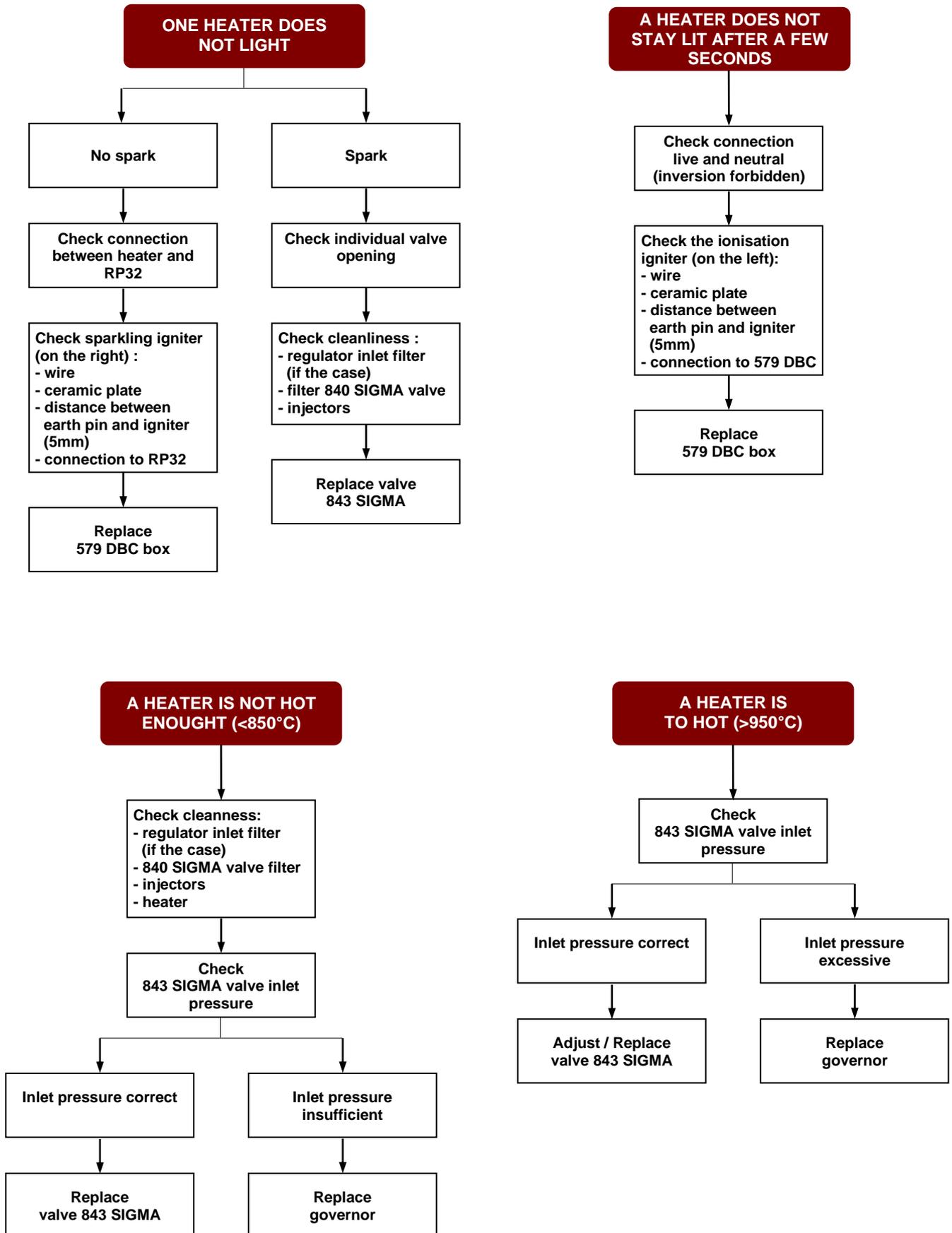
At the end of the maintenance, put back into service the installation with initial setting.

6. REPAIRS

- ❑ Problem on a single heater.



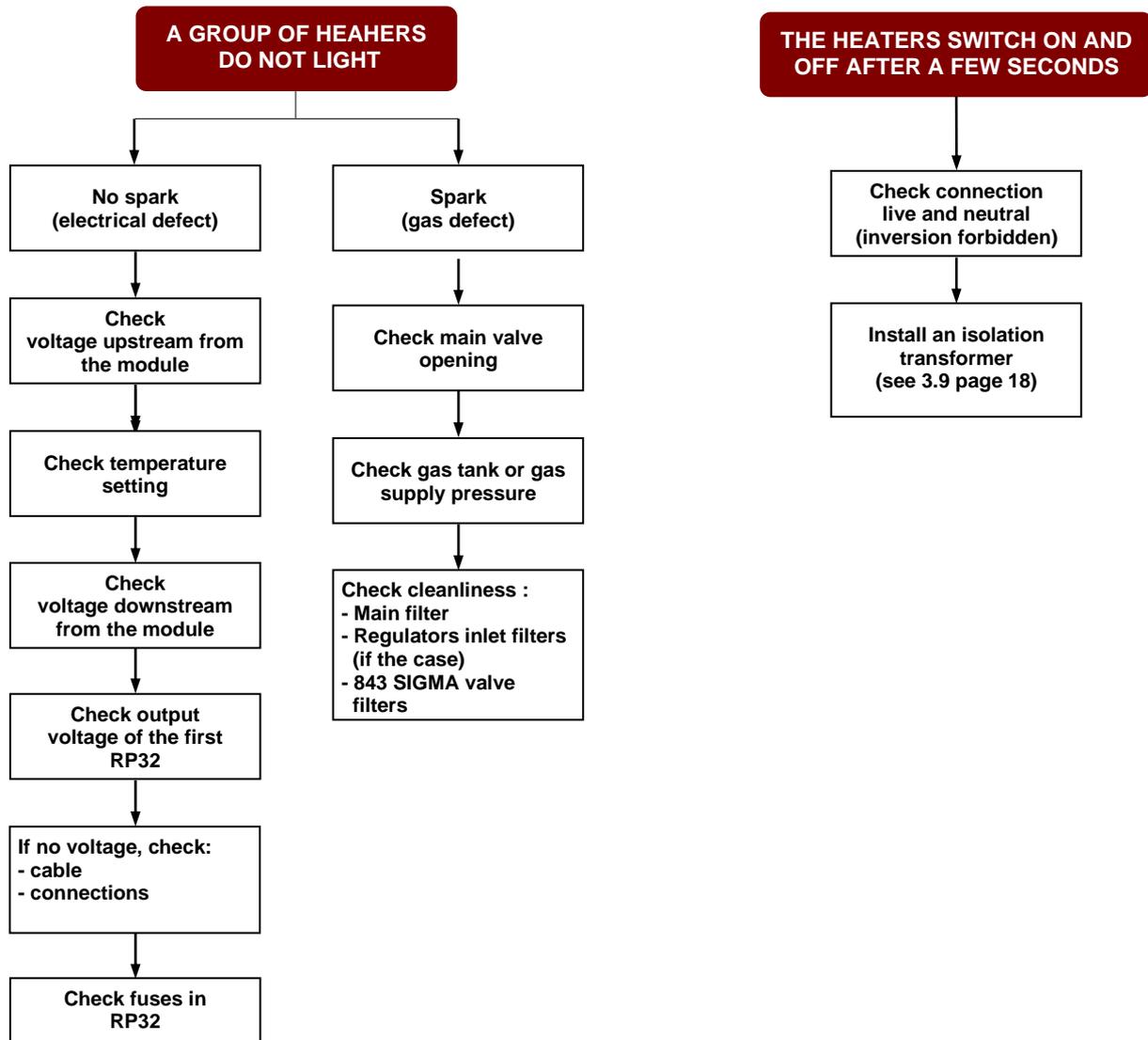
First, check compatibility of heaters with the gas type and pressure.



- ❑ Problems on a group of heaters.



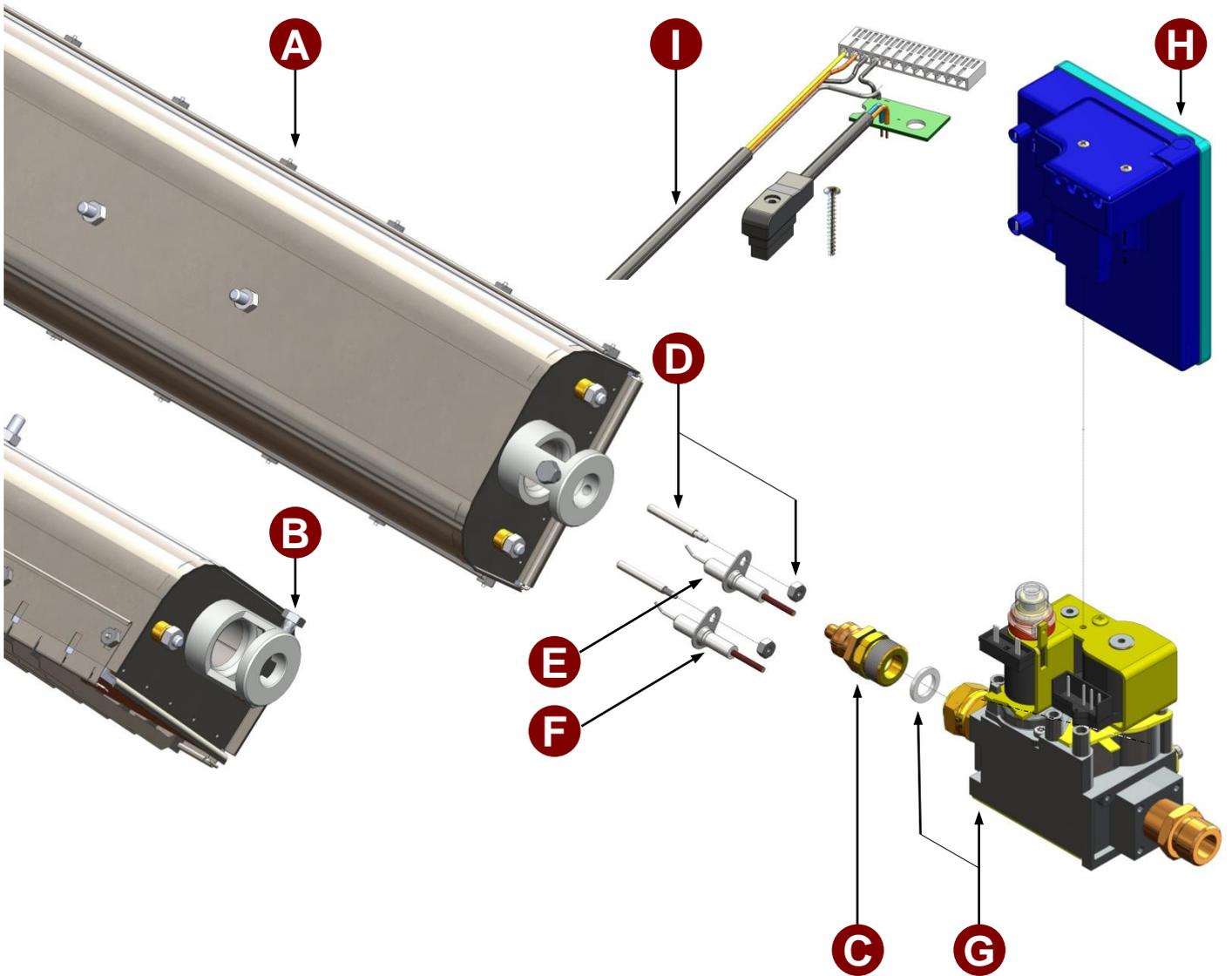
First, check compatibility of heaters with the gas type and pressure.



- ☐ XLA-I heater spare parts.



With all spare part orders, please indicate(see rating plate) :
 - The serial number of heater.
 - The gas type.
 - The operating pressure.



REP	SPARE PARTS		
	Supply SBM		Comments
A	5012010	BR 12 SX 96	Burner for 212 XLA-I
	5016010	BR 16 SX 96	Burner for 216 XLA-I
B	9804000	LOCKING SCREW INOX 6X100/16	Supplied by 10
C	5801964	BLOCK U-0-XXX-XXX-00-A-12G	Supplied with injector mounted
D	9801016	EARTH PIN.L3-NUT	Supplied with his nut
E	9801019	IGNITER 300 POD 4.8	Flame detector 300 mm cable clamp 4.8x0.8
F	9801020	IGNITER 250 POD 2.8x0.5	Ignition detector 250 mm cable clamp 2.8x0.5
G	9803014	843 SOLENOID VALVE FITTING SET	Supplied with 2 fitting mouted and his gas washer
H	9803018	BLOCK 579 DBC 0579011	Supplied with 2 screws and his seal
I	9801027	XDI CONNECTOR 1.6M/5 1/4'	Prewired plug 1.6m

7. CHANGING THE GAS USED



The changing gas used must be down by a skilled technician.

- Gas and pressure.

FAMILY	GAS	OPERATING PRESSURE
I ₂ H	G20	20 mbar
I ₃ P	G31	37 mbar

- Change of gas.

For any further information please contact your SBM agent :

NET ISI San. ve Tic. Ltd. Şti.
Hasanpaşa Mah. Lavanta Sokak No:16
Etab İş Mrk. A Blok. K:2 D:7
34722 Kadıköy / İSTANBUL
☎ : +90 (216) 327 40 27
📠 : +90 (216) 327 41 01
www.netisi.com.tr

- Principle

This operation must be down by a skilled technician.
It is composed of changing the BLOC U-0-XXX-XXX-00-A-12G (see page 28).
and setting the VALVE 843 SIGMA.

SBM can supply a conversion kit, composed of:

- One BLOC U-0-XXX-XXX-00-A-12G with gas specific orifices.
- a gas changing label to stick near the rating plate.

With all conversion kit order, please indicate:

- type / serial number of the heater.
- gas type.
- operating pressure.

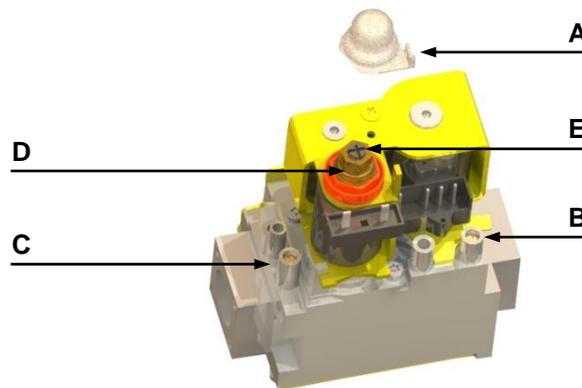
All this information can be found on the rating plate on the heater.

❑ Successive operations:

- Replace BLOC U-0-XXX-XXX-00-A-12G.
- Light the heater on the "MAXI" position.
- Remove the protection cap **A**.
- Check the inlet pressure of the heater at the pressure control socket **B**.
(see tables pages 3 and 4 for inlet minimal, nominal and maximal pressures)
- Check the maximal injecting pressure at pressure control socket **C**.
- Adjust this injecting pressure by means of setting nut **D** (spanner 10 mm)
(see tables pages 3 and 4 for maxi and mini injecting pressures)
When the regulator needs to be blocked, tight the nut **D** to maximum but without excessive force.
- Put the heater on the "MINI" position.
- By maintaining the nut **D** with the spanner, adjust the mini injection pressure with the screw **E** (screw driver thickness 1 mm)



Tighten the screws after removing the pressure gauge, and replace the protection cap.



- Apply the gas conversion label next to the rating plate.



When replacing a 843 SIGMA VALVE, check all settings indicated above.

8. COMMISSION REGULATION (EU) 2015/1188

Requirements for product information applicable to commercial local space heaters

Luminous heaters XLA-I

Model identifier	212 XLA-I	216 XLA-I
Type of heating	Luminous heaters	
Fuel	Gaseous	
Space heating emissions		
NO _x emissions (mg/kWh _{PCS})	< 50	
Heat input		
Nominal heat input (kW _{PCS})	11,4	15
Minimum heat input (kW _{PCS})	n.d	n.d
Minimum heat input (% of P _{nom})	n.d	n.d
Radiant factor		
Radiant factor at nominal heat output	0,64	0,62
Radiant factor at minimum heat output	n.d	n.d
Auxiliary electricity consumption		
At nominal heat input (kW)	0,038	0,038
At minimum heat input (kW)	0,019	0,019
In standby mode (kW)	0	0
Heat output control type		
Single stage	No	No
Two stages	Yes	Yes
Modulating	No	No
Seasonal efficiency		
Seasonal space heating efficiency	85,4 %	85,4 %

End of life :

SBM radiant heaters includes electronic elements (gas valve and electronic block) which must be brought to a collection point for waste electrical equipment and electronics (WEEE). Comply with the waste disposal regulations in force when decommissioning.



