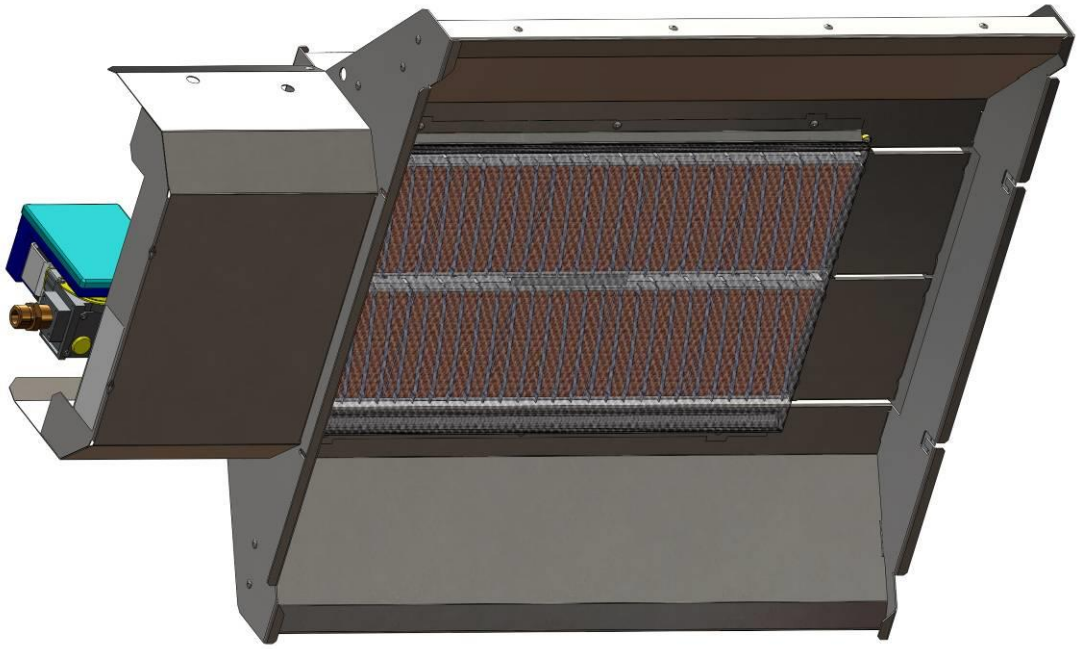
GB / IE

XFR-I HEATERS

INSTALLER INSTRUCTIONS

(INSTALLATION - MAINTENANCE - CHANGING GAS)

N° 05000487 / 1



Hight radiant factor luminous heater
Stainless steel burners
Stainless steel body
Electronic ignition and flame control

Manufacturer :
SBM
3 cottages de la Norge
21490 CLENAY
FRANCE
http://www.sbm-international.net

Agent :

CE 1312

SUMMARY

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.

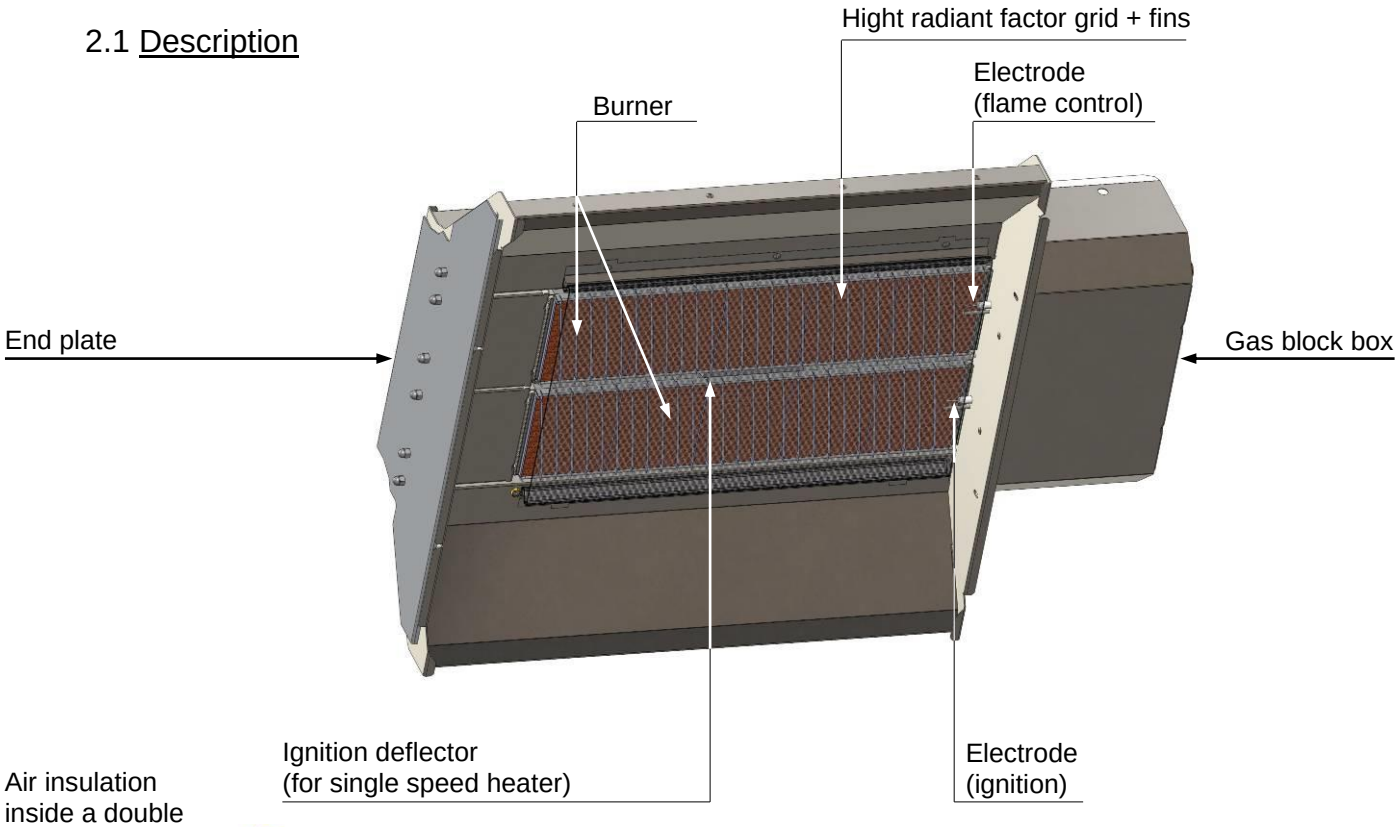
 Consult the instructions before installation and maintenance of this appliance.

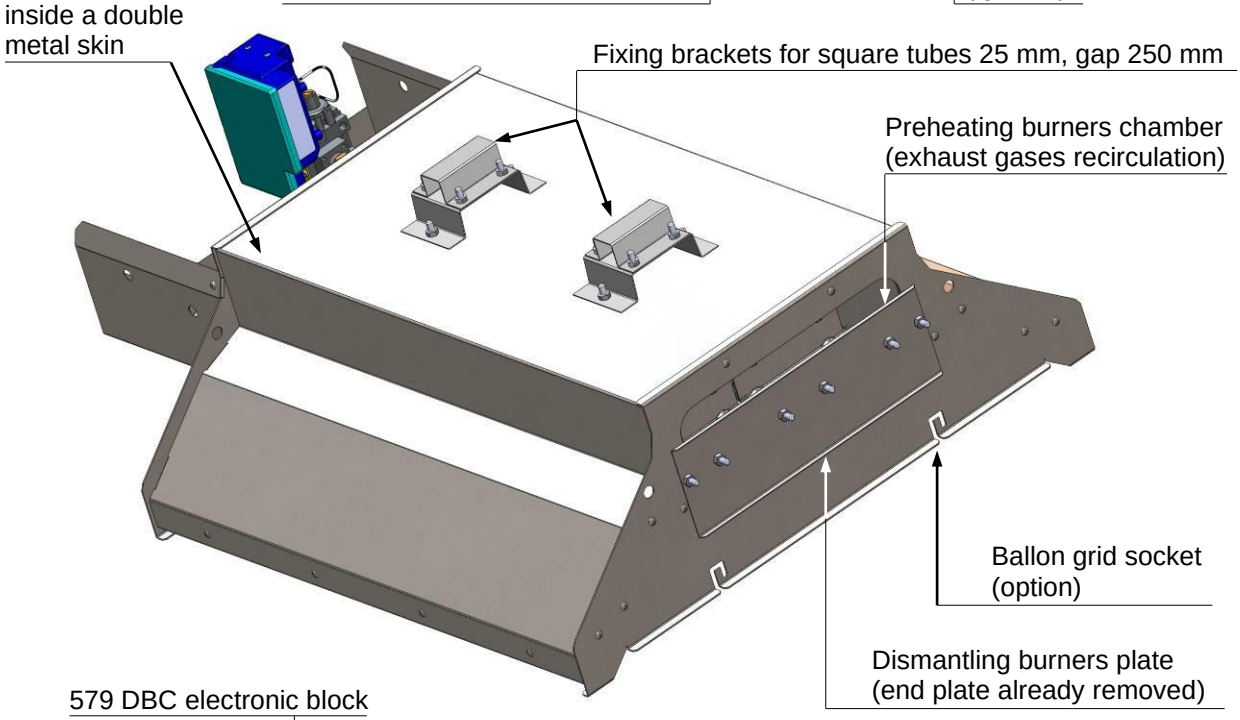
 Switch-off the appliance and close the gas valve before carrying out any service operation.

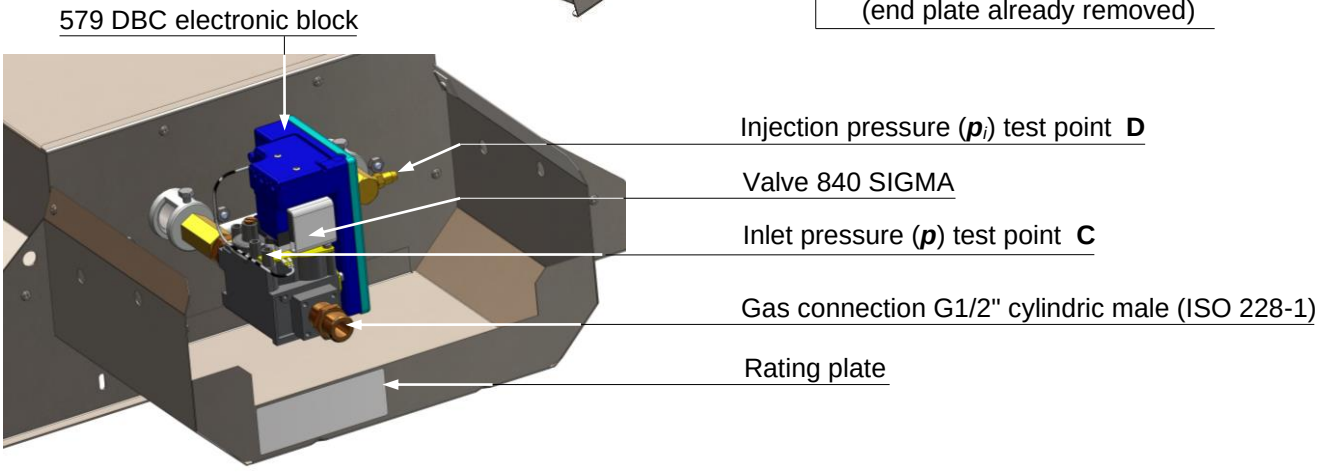
 This manual, as well as the user's manual, must be given to the user at the end of the work.

2. PRODUCT SPECIFICATION

2.1 Description







2.2 Technical specifications

GAS : G20 - Category : I_{2H} GB/IE

MODEL		XFR-I 16	XFR-I 20	XFR-I 20-2	XFR-I 24	XFR-I 24-2	XFR-I 32	XFR-I 32-2	XFR-I 48-2	XFR-I 64-2
Certificat number CE		1312 CL 5522								
Class NOx		5 (< 50 mg/kWh)								
Weight	(kg)	15.20	15.20	16.40	16.70	17.90	20.10	21.30	see page 12	
Net calorific value										
ΣQn (Hi)	(kW)	5.80	6.65	6.65	8.00	8.00	10.30	10.30	2x 8.00	2x 10.30
ΣQn (Hs)	(kW)	6.44	7.38	7.38	8.88	8.88	11.44	11.44	2x 8.88	2x 11.44
GAS										
Nominale inlet pressure ***p***	(mbar)	20								
Minimal inlet pressure	(mbar)	17								
Maximal inlet pressure	(mbar)	25								
Injection pressure p_i	(mbar)	16	14	14	15	15	16	16	15	16
Volumetric flow rate	(m^3/h)	0.620	0.703	0.703	0.846	0.846	1.090	1.090	2x 0.846	2x 1.090
Orifice (injector)	(1/100 mm)	1x179	2x152	2x152	2x171	2x171	2x179	2x179	4x171	4x179
Primary orifice (restrictor)	(1/100 mm)	-	-	-	-	-	-	-	-	-
Gas input connection		G1/2" (ISO 228-1)								
Evacuation of combustion products		Type A_1 (not connected)								
ELECTRICITY										
Power supply		230V (+10% -15%) – 50Hz Neutral mandatory								
Consumption	(VA)	19	19	2x 19	19	2x 19	19	2x 19	2x 19	2x 19
Individual fast acting fuse 5x20 (RP3 – RP32) (A)		0.25A	0.25A	2x 0.25A	0.25A	2x 0.25A	0.25A	2x 0.25A	2x 0.25A	2x 0.25A
Ignition cycle length		30 seconds								
VENTILATION										
Combustion air	(m^3/h)	6.01	6.82	6.82	8.20	8.20	10.57	10.57	2x 8.20	2x 10.57
Required air change	(m^3/h)	58.0	66.5	66.5	80.0	80.0	130.0	103.0	2x 80.0	2x 103.0

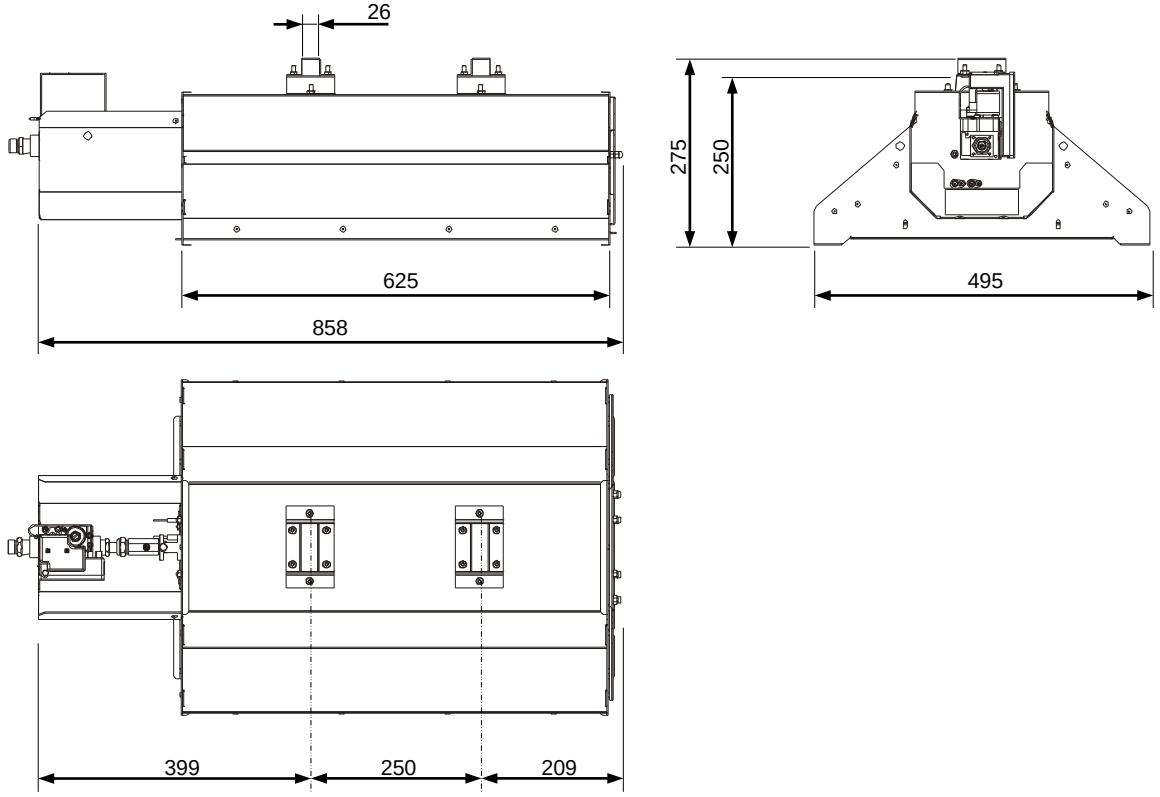
GAS : G31 - Category : I_{3P} GB/IE

MODEL		XFR-I 16	XFR-I 20	XFR-I 20-2	XFR-I 24	XFR-I 24-2	XFR-I 32	XFR-I 32-2	XFR-I 48-2	XFR-I 64-2
Certificat number CE		1312 CL 5522								
Class NOx		5 (< 50 mg/kWh)								
Weight	(kg)	15.20	15.20	16.40	16.70	17.90	20.10	21.30	see page 12	
Net calorific value										
ΣQn (Hi)	(kW)	5.47	6.65	6.65	8.00	8.00	10.30	10.30	2x 8.00	2x 10.30
ΣQn (Hs)	(kW)	5.95	7.23	7.23	8.70	8.70	11.20	11.20	2x 8.70	2x 11.20
GAS										
Nominale inlet pressure ***p***	(mbar)	37								
Injection pressure p_i (blocked regulator)	(mbar)	34	28	30	32	32	32	34	32	32
Mass flow rate	(kg/h)	0.429	0.543	0.543	0.654	0.654	0.841	0.841	2x 0.654	2x 0.841
Orifice (injector)	(1/100 mm)	1x119	2x99	2x99	2x106	2x106	2x119	2x119	4x106	4x119
Primary orifice (restrictor)	(1/100 mm)	1x225	1x174	2x134	1x251	2x172	1x275	2x225	2x251	2x275
Gas input connection		G1/2" (ISO 228-1)								
Evacuation of combustion products		Type A_1 (not connected)								
ELECTRICITY										
Power supply		230V (+10% -15%) – 50Hz Neutral mandatory								
Consumption	(VA)	19	19	2 x 19	19	2 x 19	19	2 x 19	2 x 19	2 x 19
Individual fast acting fuse 5x20 (RP3 – RP32) (A)		0.25A	0.25A	2x 0.25A	0.25A	2x 0.25A	0.25A	2x 0.25A	2x 0.25A	2x 0.25A
Ignition cycle length		30 seconds								
VENTILATION										
Combustion air	(m^3/h)	5.09	6.44	6.44	7.76	7.76	9.98	9.98	2x 7.76	2x 9.98
Required air change	(m^3/h)	54.7	66.5	66.5	80.0	80.0	103.0	103.0	2x 80.0	2x 103.0

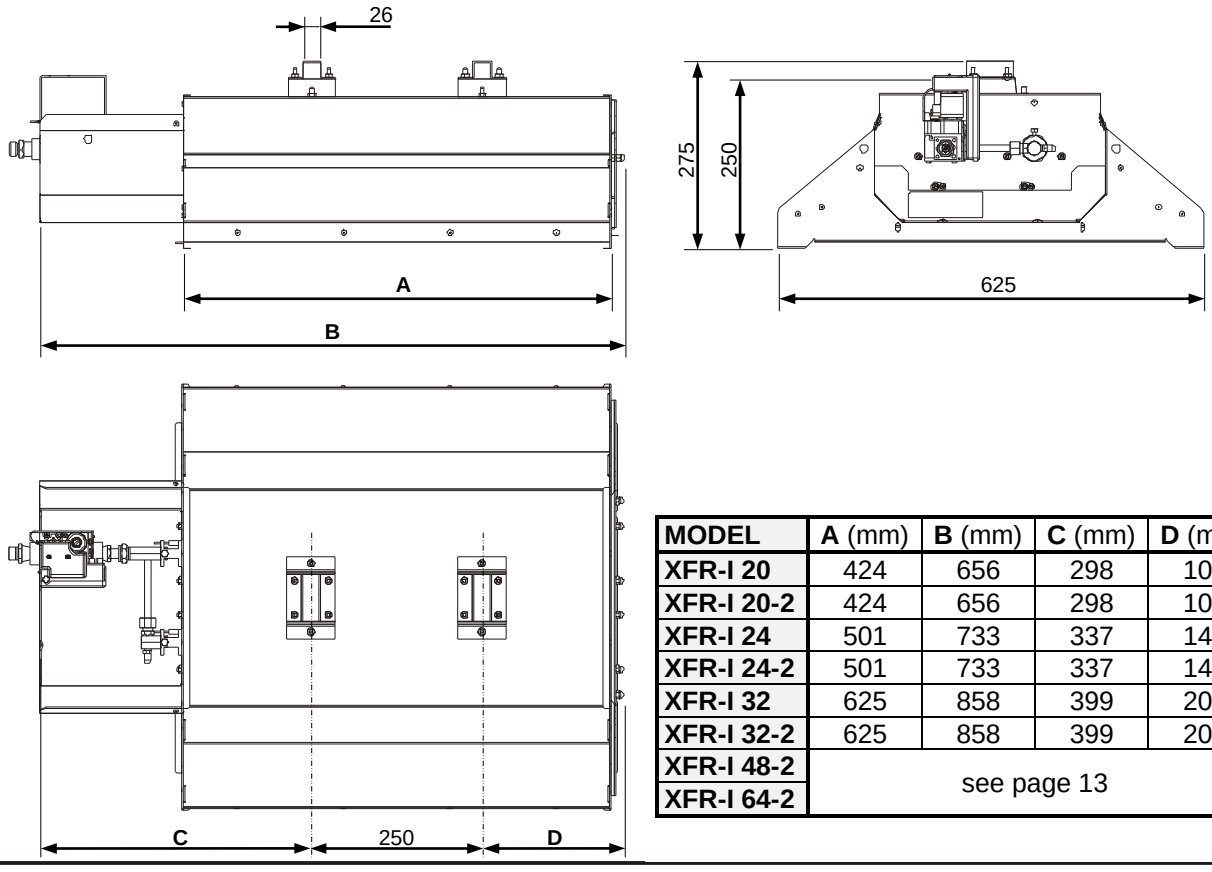
High radiant factor, up to 0.85 (EN 419-2)

2.3 XFR-I heater dimensions

XFR-I 16



XFR-I 20, XFR-I 20-2, XFR-I 24, XFR-I 24-2, XFR-I 32, XFR-I 32-2, XFR-I 48-2 and XFR-I 64-2



MODEL	**A** (mm)	**B** (mm)	**C** (mm)	**D** (mm)
XFR-I 20	424	656	298	108
XFR-I 20-2	424	656	298	108
XFR-I 24	501	733	337	146
XFR-I 24-2	501	733	337	146
XFR-I 32	625	858	399	209
XFR-I 32-2	625	858	399	209
XFR-I 48-2	see page 13			
XFR-I 64-2				

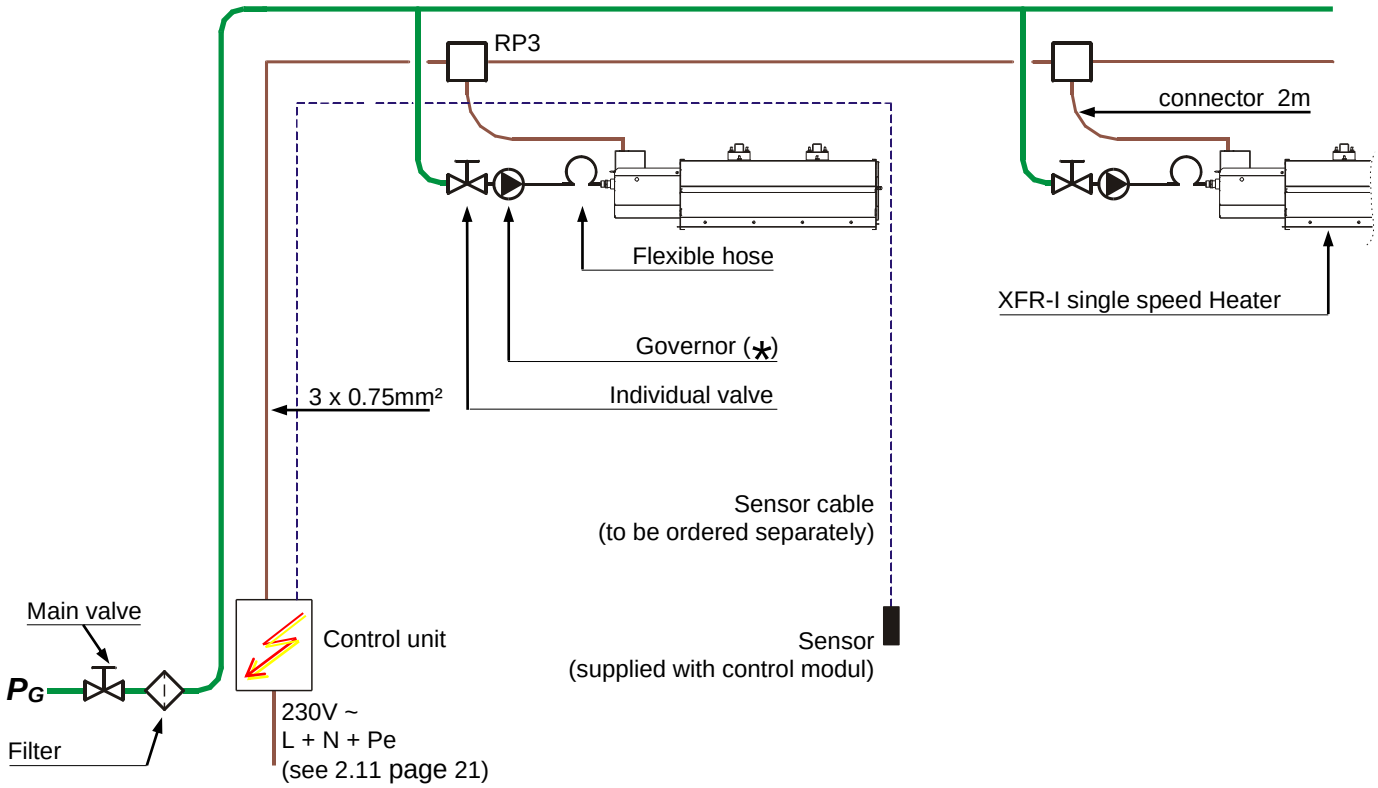
3. INSTALLATION

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

3.1 Rules and regulations

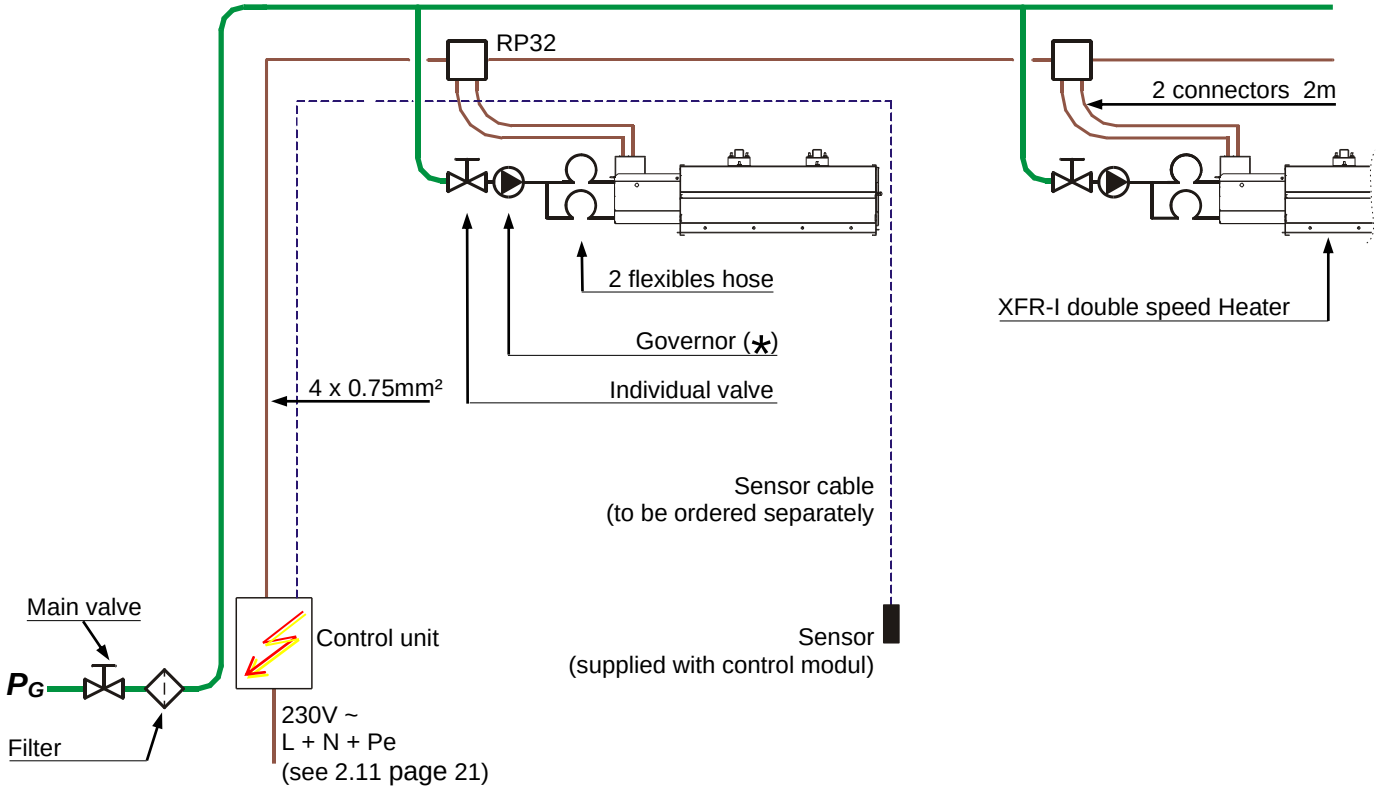
- SBM infrared heaters are CE approved.
- The premises must be ventilated in accordance with the norm EN13410.
- Building Standards (Scotland) (Consolidated) Regulations.
- Building regulations.
- Gas safety (Installations and Use) Regulations.
- Institute of Electrical Engineers (I.E.E.) Regulations.
- BS6896 Specification for Installation of Gas Fired Overhead Radiant Heaters for Industrial and Commercial Heating (2nd and 3rd family gases).
- Local British Gas Region Regulations.
- Local Authority Bylaws.
- Health and Safety at Work Act 1974.
- Not for domestic use.

3.2 Diagram of a standard installation single speed



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

3.3 Diagram of a standard installation double speed



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

3.4 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.


CHAUFFAGE CERAMIQUE GAZ

FR

RADIANTS XFR-I

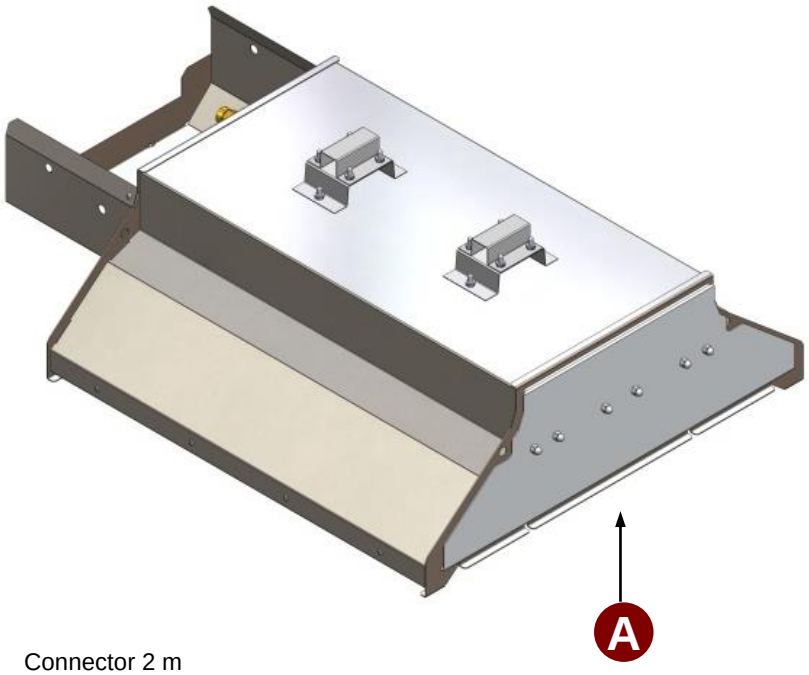
NOTICE UTILISATEUR

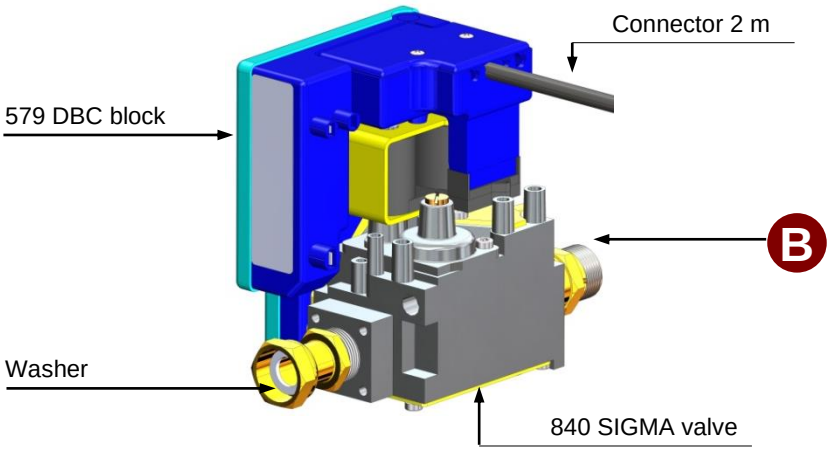
(UTILISATION)

N° 05000482 / 5

1. DESCRIPTIF TECHNIQUE
2. CONSIGNES DE SECURITE
3. ALLUMAGE
4. ARRET
5. ENTRETIEN
6. CONVERSION DU GAZ DE FONCTIONNEMENT
7. REGLEMENT (UE) 2015/1188 DE LA COMMISSION

C

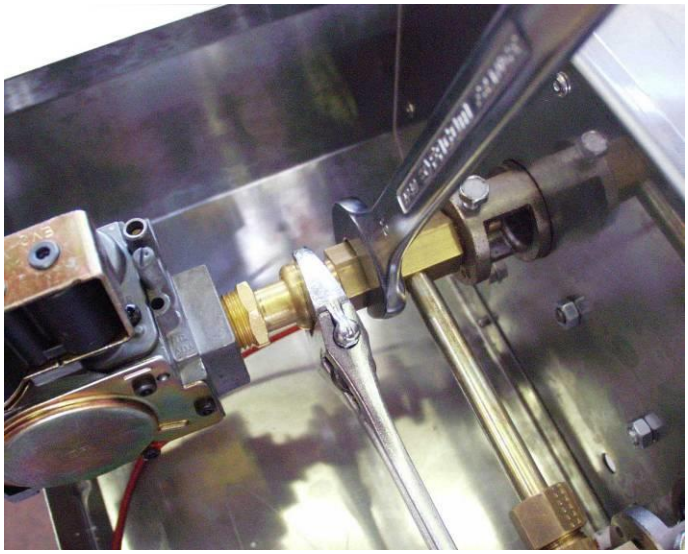

A



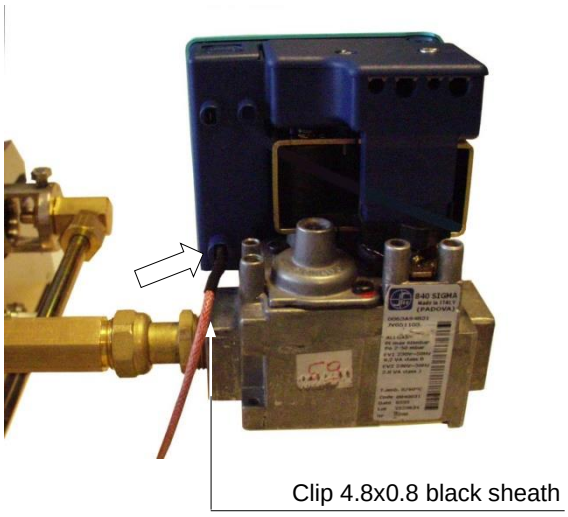
REP	PART	QUANTITY								
		XFR-I 16	XFR-I 20	XFR-I 20-2	XFR-I 24	XFR-I 24-2	XFR-I 32	XFR-I 32-2	XFR-I 48-2	XFR-I 64-2
A	Heater	1	1	1	1	1	1	1	see page 11	
B	843 SIGMA valve + 579 DBC block + connector 2m assembled	1	1	2	1	2	1	2		
C	User instructions	1								

3.5 Heaters assembling procedure

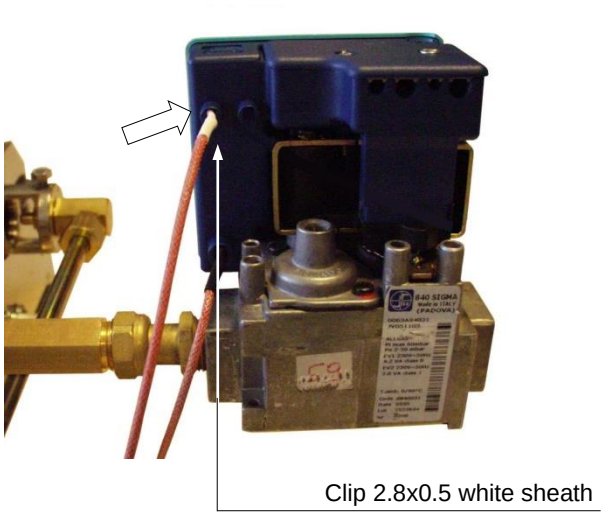
❒ Assembling of the 840 SIGMA valve on the heater.



❒ Connection of the flame detector



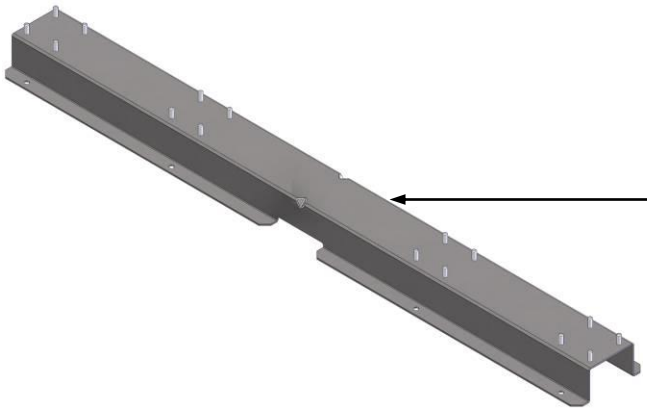
❒ Connection of the ignition electrode



❒ Examples of fixtures to be supplied by the installer :

XFR-I 48-2 = XFR-I 24 + XFR-I 24 + (2 XFR 24) BEAM
XFR-I 64-2 = XFR-I 32 + XFR-I 32 + (2 XFR 32) BEAM

If heaters will be fit with ballon grids, grids must be mounted before the 2 heaters assembly. (see 2.7 page 16)

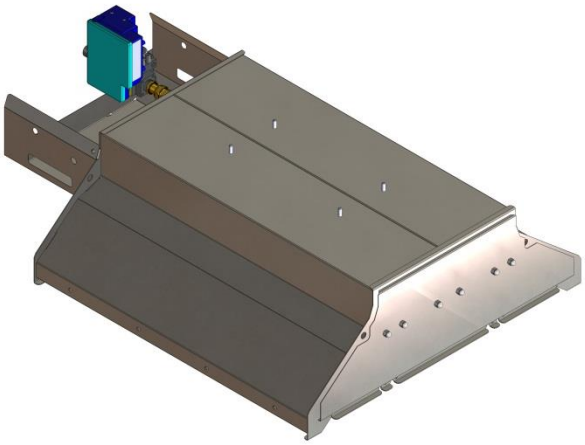


(2 XFR 24) BEAM
(2 XFR 32) BEAM

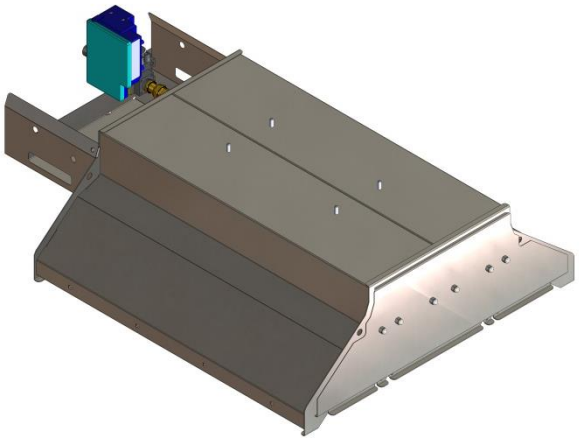
1

+

XFR-I 24 / XFR-I 32



XFR-I 24 / XFR-I 32

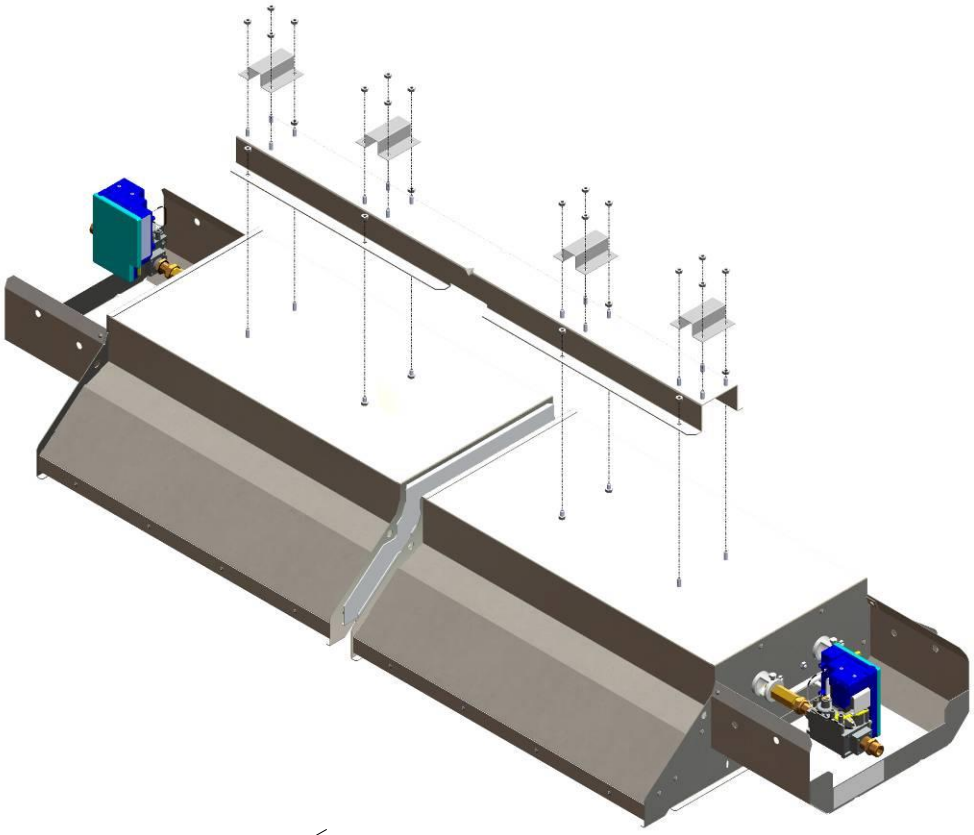


+

ECROU M6 x 24

CAVALIER x 4

2



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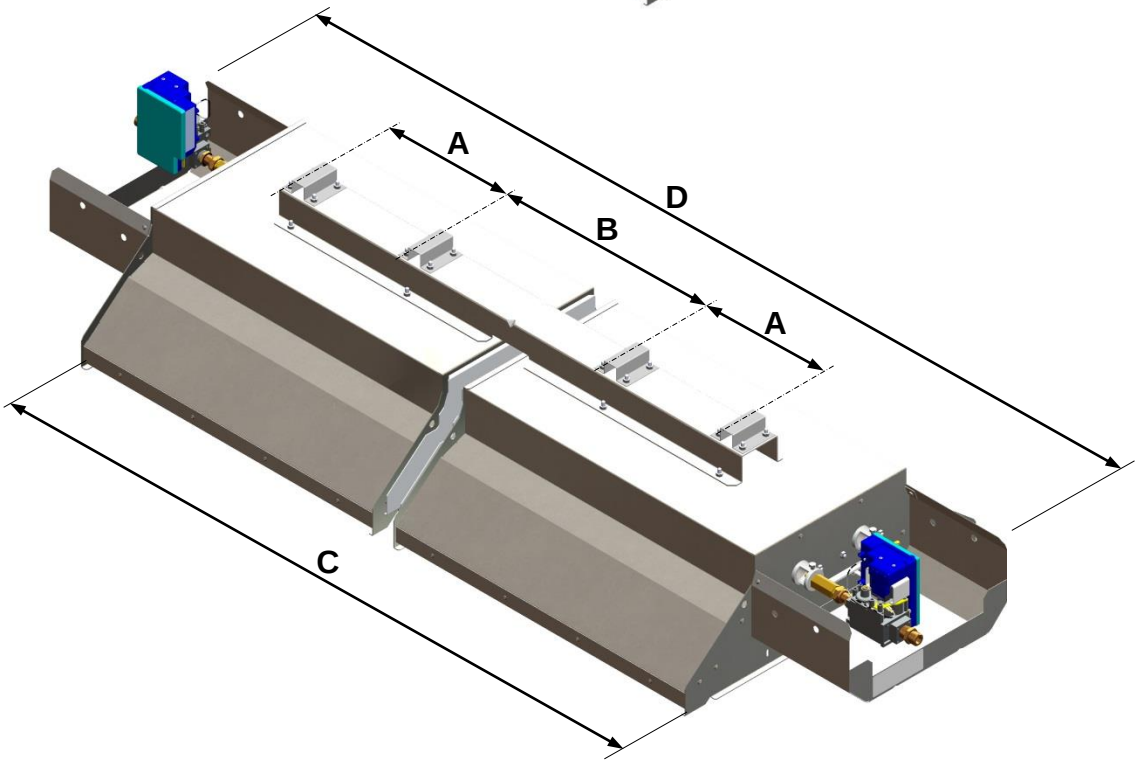
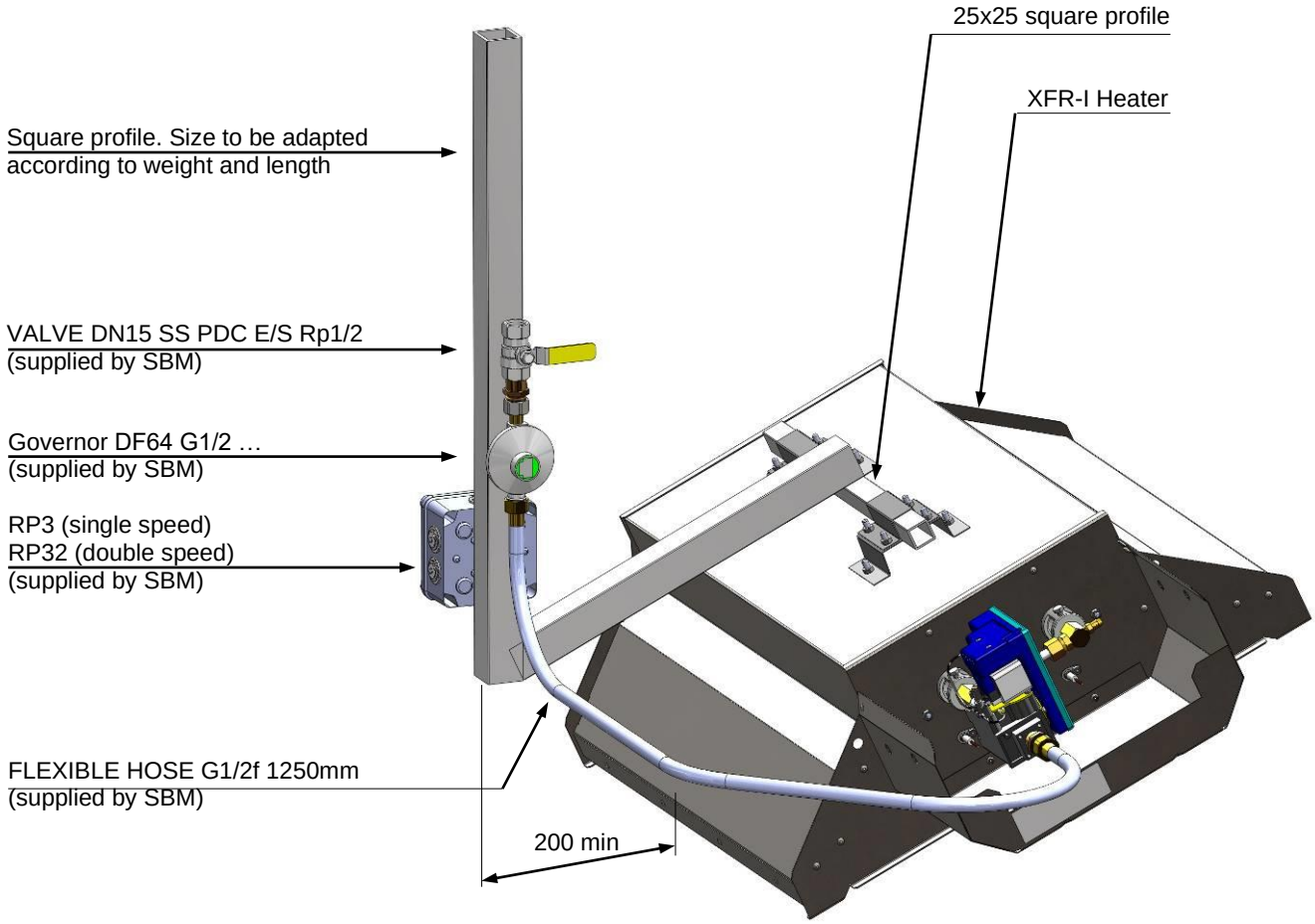


	XFR-I 48-2	XFR-I 64-2
A (mm)	250	250
B (mm)	298	422
C (mm)	1053	1300
D (mm)	1473	1720
Weight (kg)	36.30	43.50

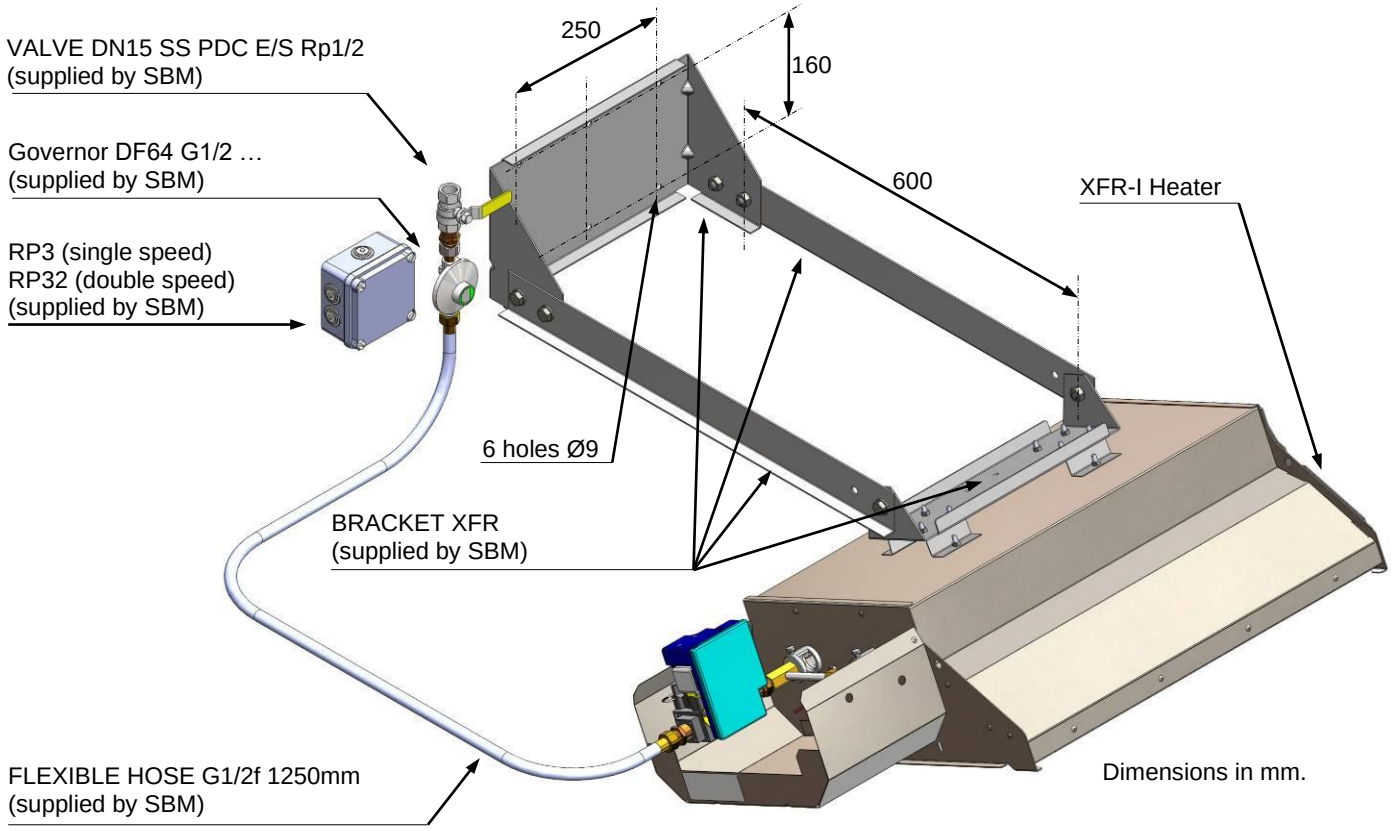
3.6 Fixing of heaters

❒ Example of mounting bracket for **XFR-I 16** to **XFR-I 32-2**, to be supplied by the installer.



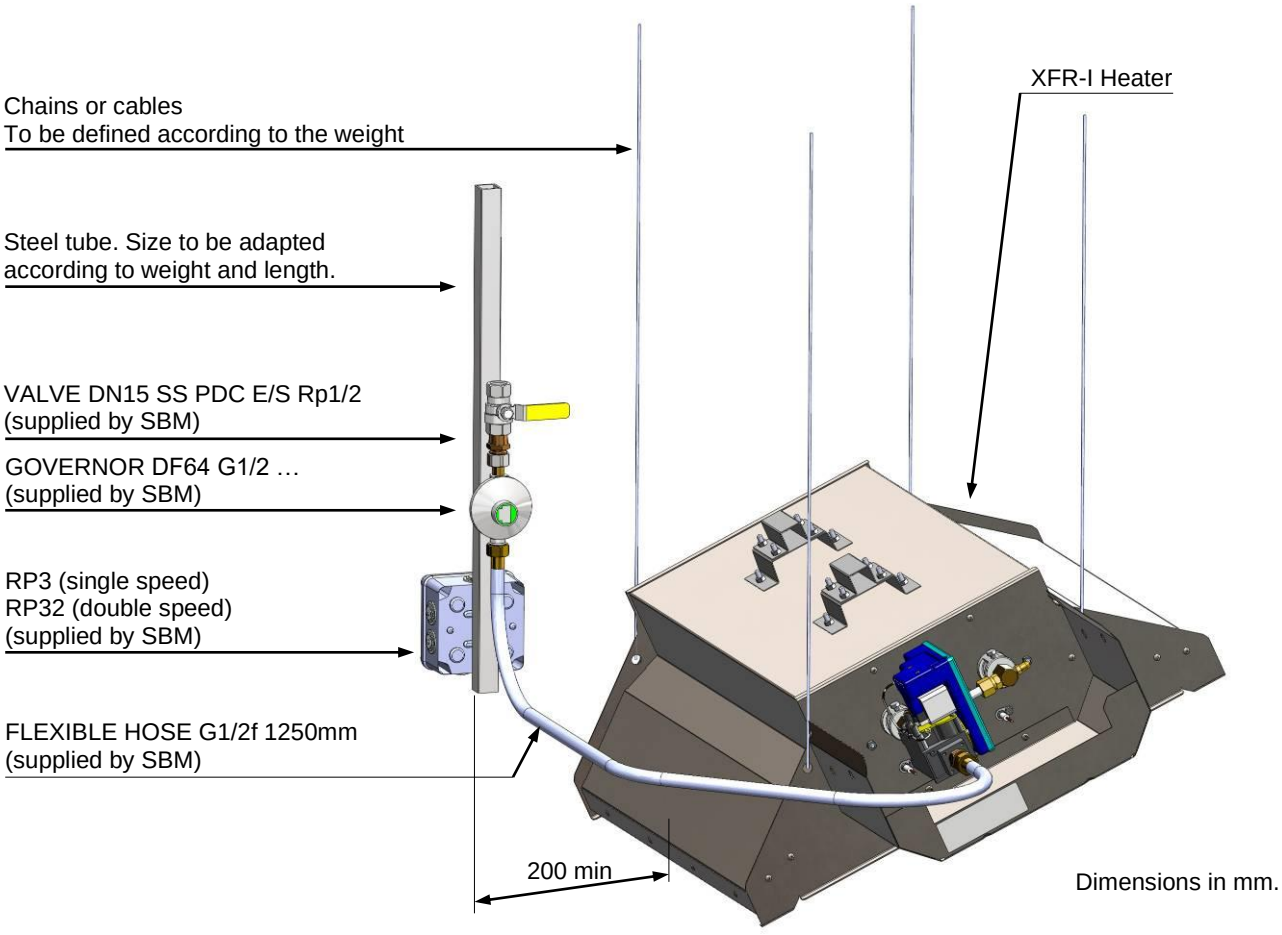
Dimensions in mm.

❒ Example of SBM multi-directional bracket for **XFR-I 16** to **XFR-I 32-2**



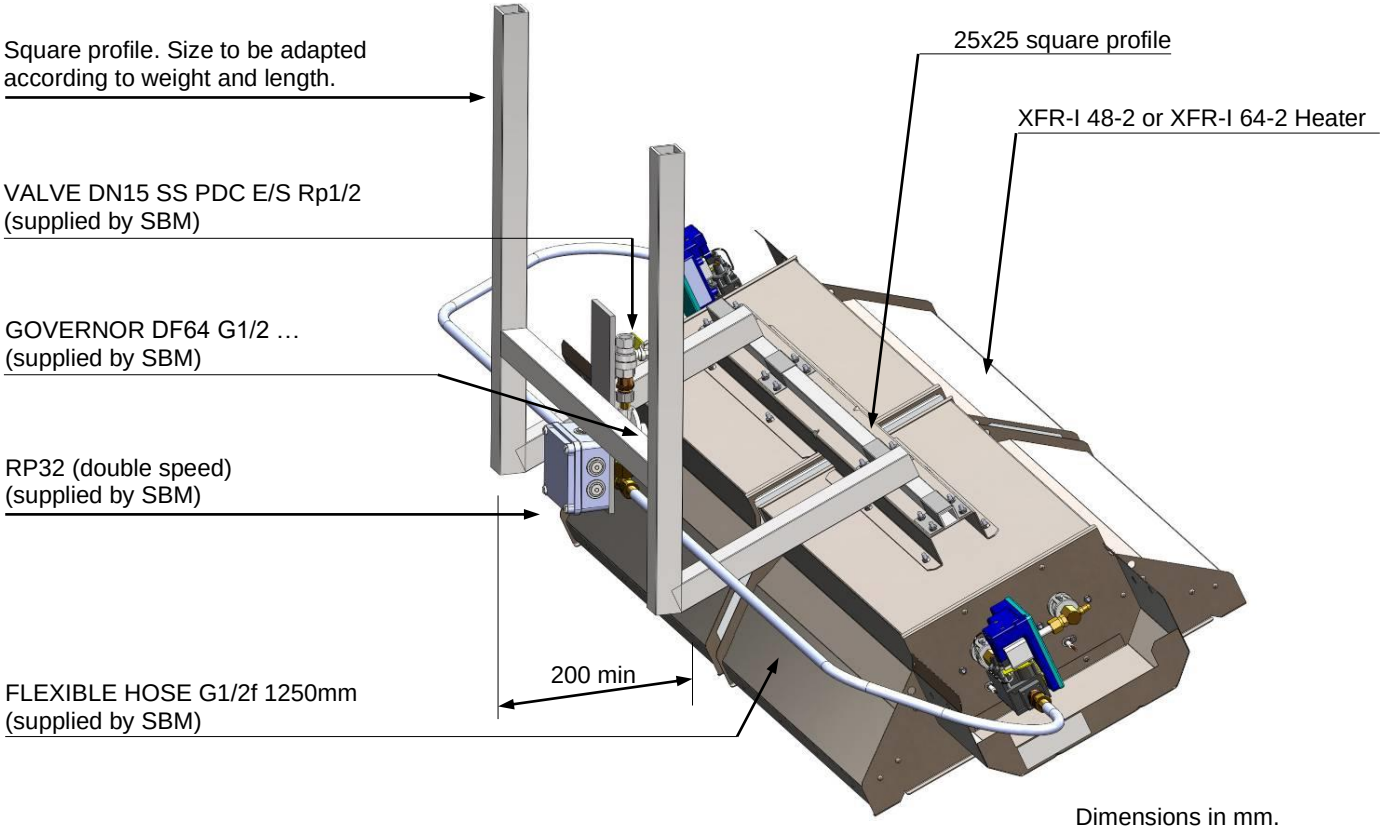
Dimensions in mm.

❒ Hanging exemple with chains or cables for **XFR-I 16** to **XFR-I 32-2**

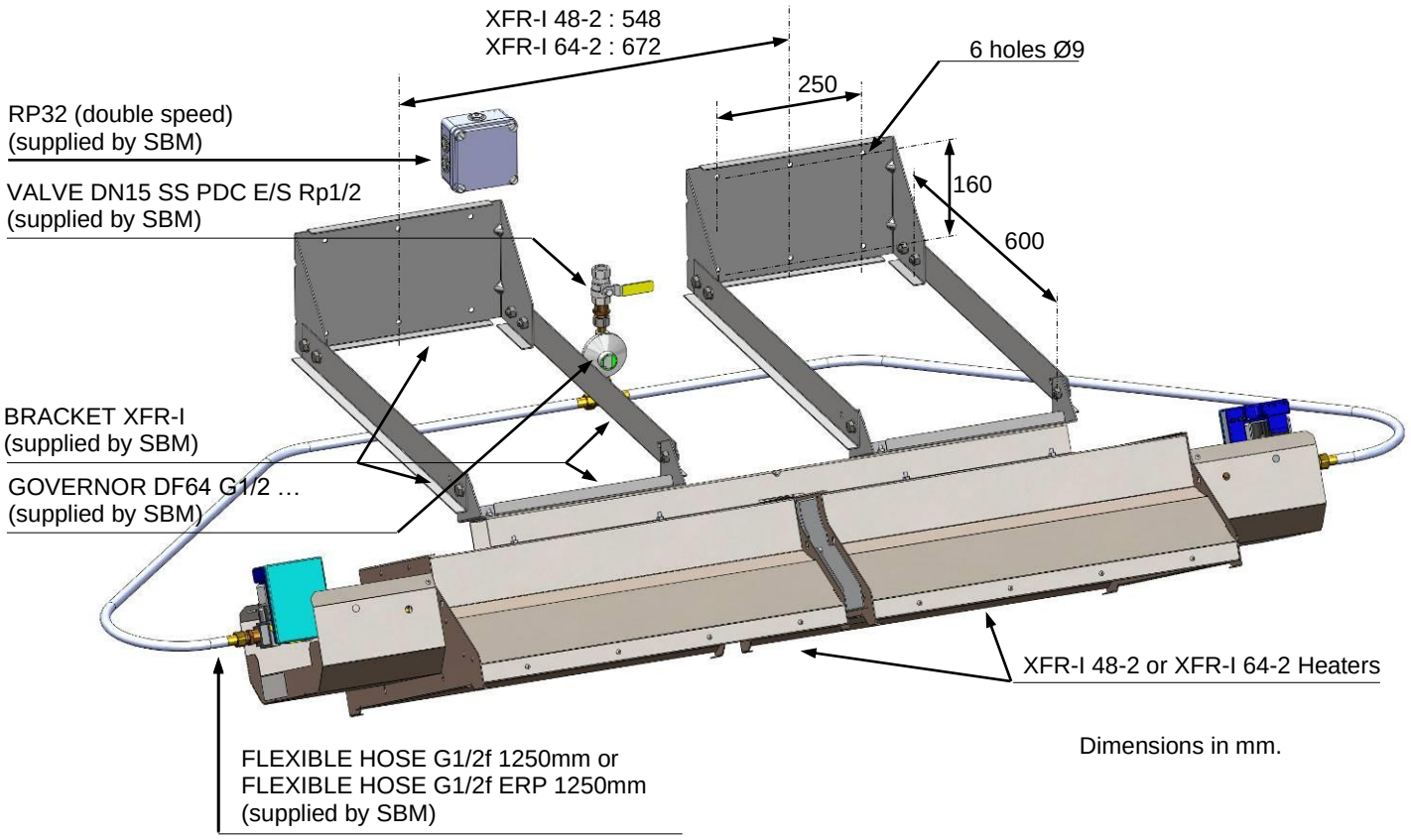


In case of heater fixing with witholding cables, the locking system mustn't be located in the heating area of the heater : risk of system melting and heater fall. (see 3.8)

❒ Example of mounting bracket for **XFR-I 48-2** and **XFR-I 64-2**, to be supplied by the installer.

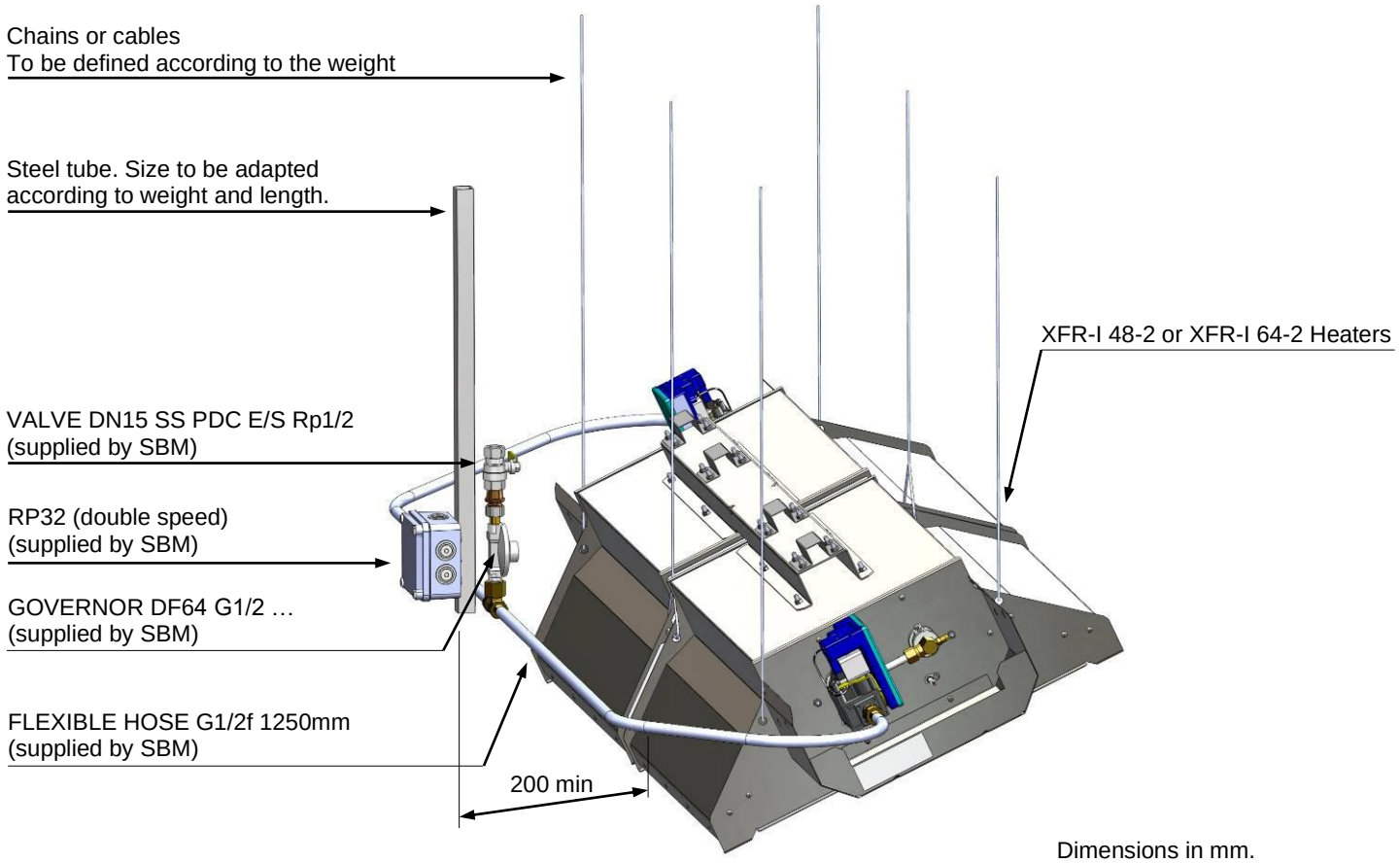


❒ Example of SBM multi-directional bracket for **XFR-I 48-2** and **XFR-I 64-2**



Dimensions in mm.

❒ Hanging example with chains or cables for **XFR-I 48-2** and **XFR-I 64-2**



Dimensions in mm.

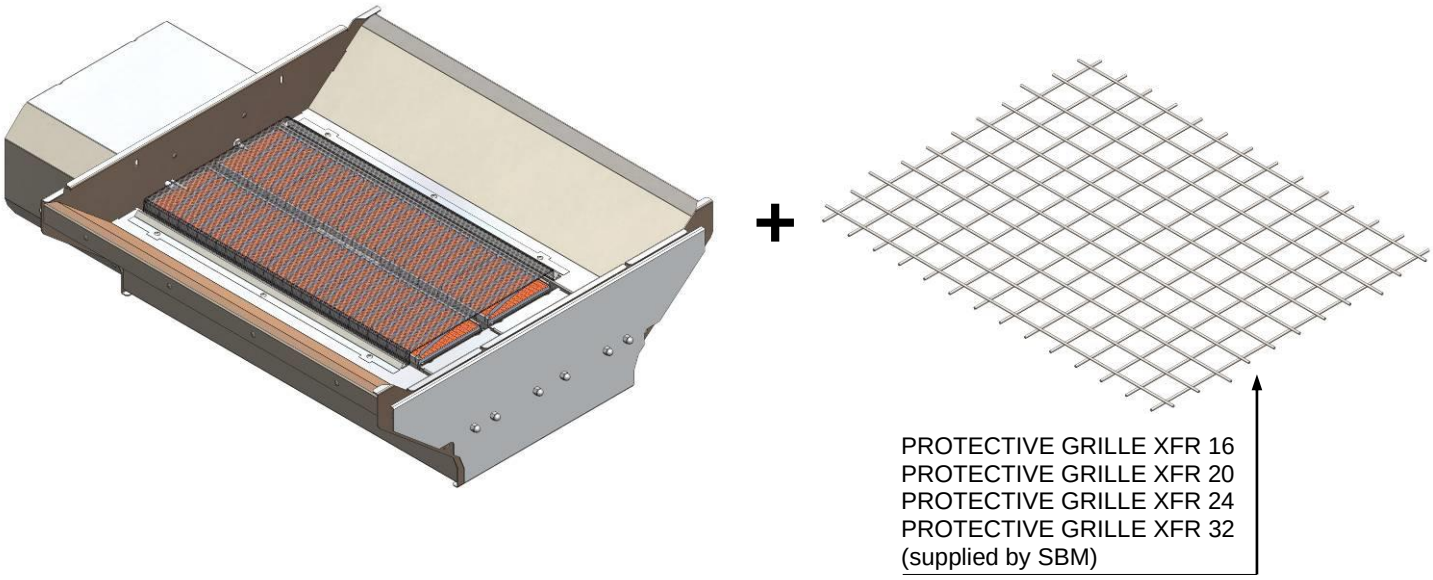
❒ Minimum recommended safety heights:

MODELL	MIN HEIGHT (m)
XFR-I 16	3.60
XFR-I 20 / XFR-I 20-2	3.80
XFR-I 24 / XFR-I 24-2	4.10
XFR-I 32 / XFR-I 32-2	4.50
XFR-I 48-2	5.00
XFR-I 64-2	5.50

❒ **MINIMUM COMFORT HEIGHTS :** refer to the specific SBM case study for each project.

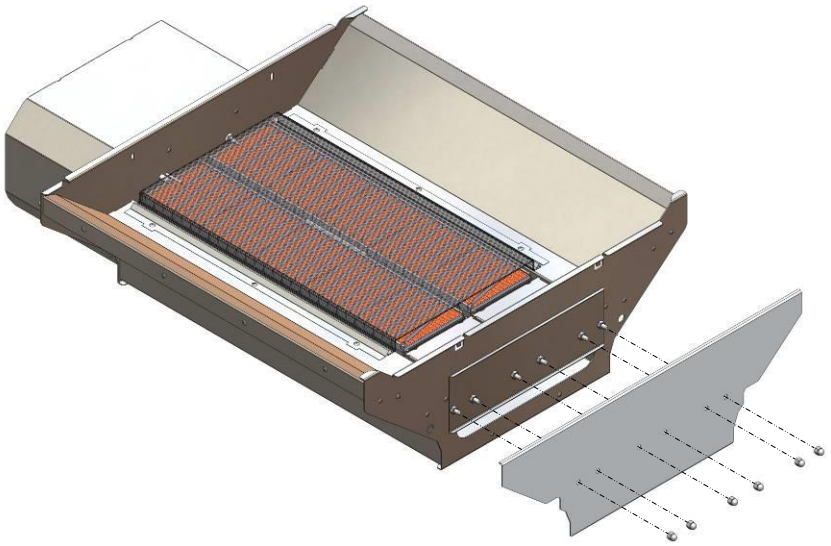
3.7 Accessories

- ❒ Grilles for protecting **XFR-I** heaters from balls and other flying objects

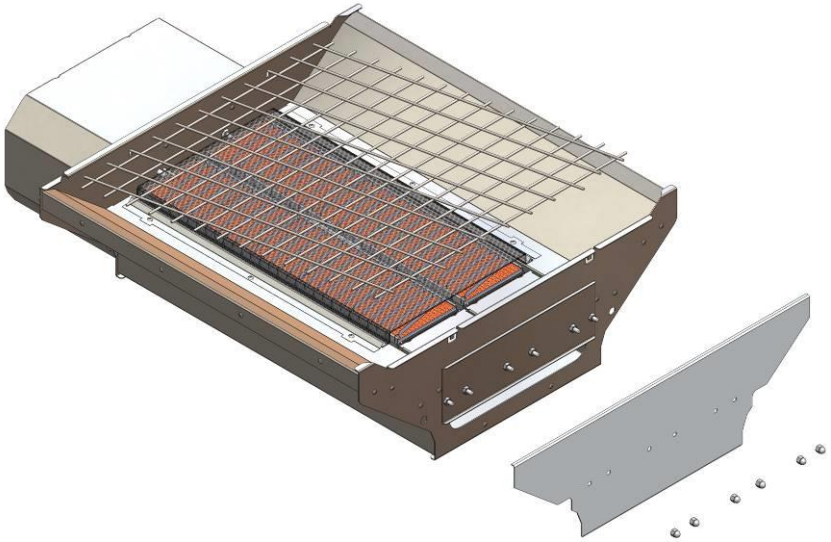


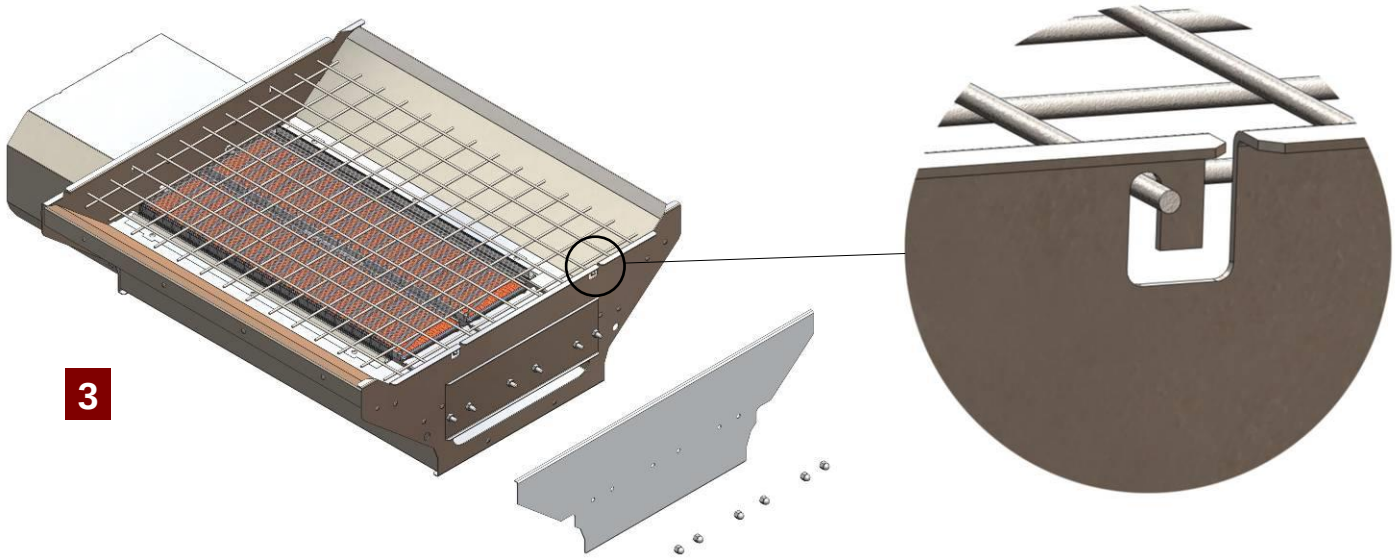
PROTECTIVE GRILLE XFR 16
PROTECTIVE GRILLE XFR 20
PROTECTIVE GRILLE XFR 24
PROTECTIVE GRILLE XFR 32
(supplied by SBM)

1



2





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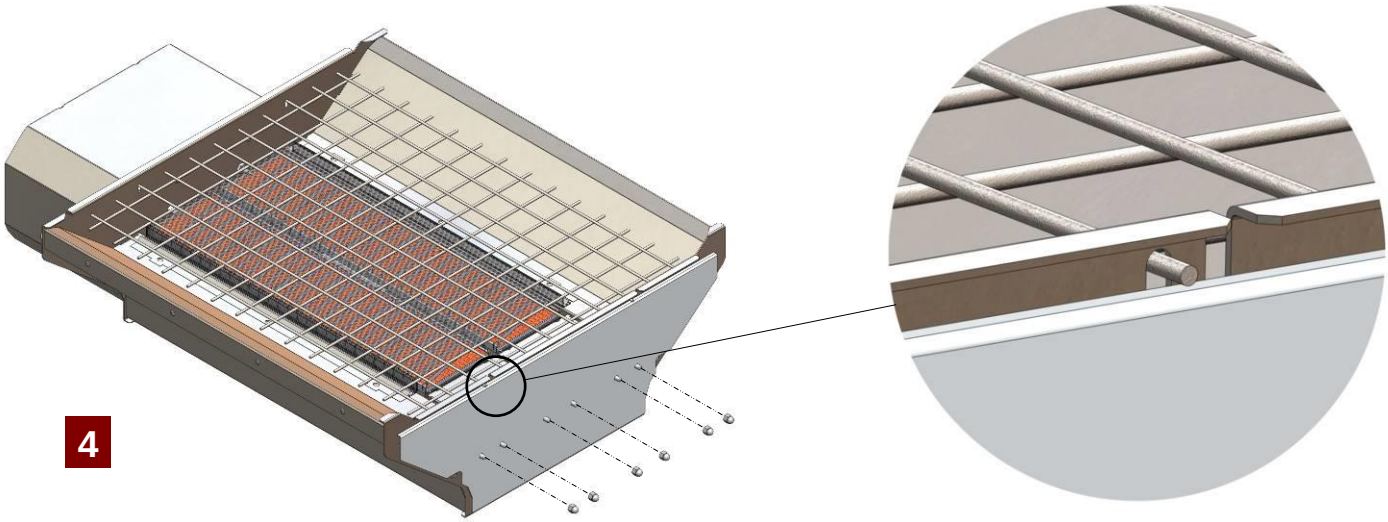
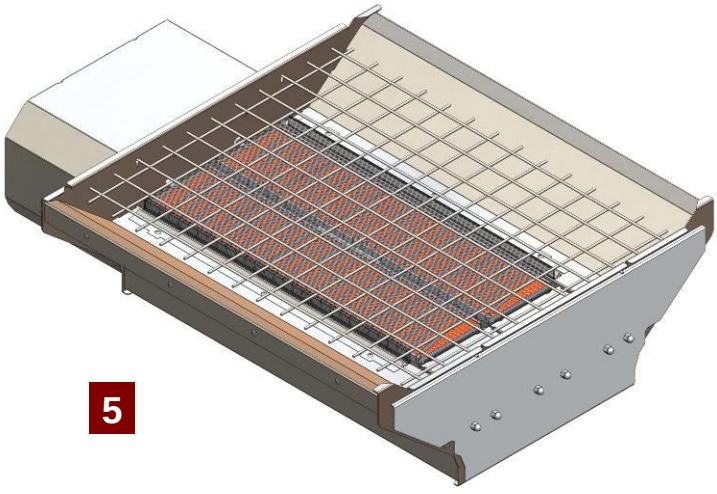


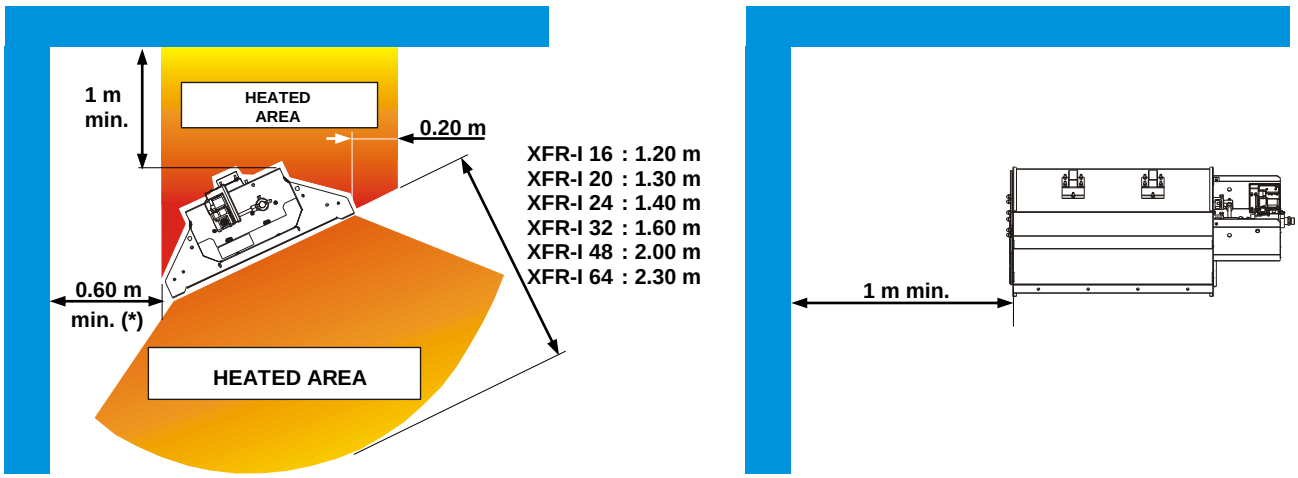
4



5

XFR-I 48-2 : 2 x PROTECTIVE GRILLE XFR 24
XFR-I 64-2 : 2 x PROTECTIVE GRILLE XFR 32

3.8 Minimum safety clearances



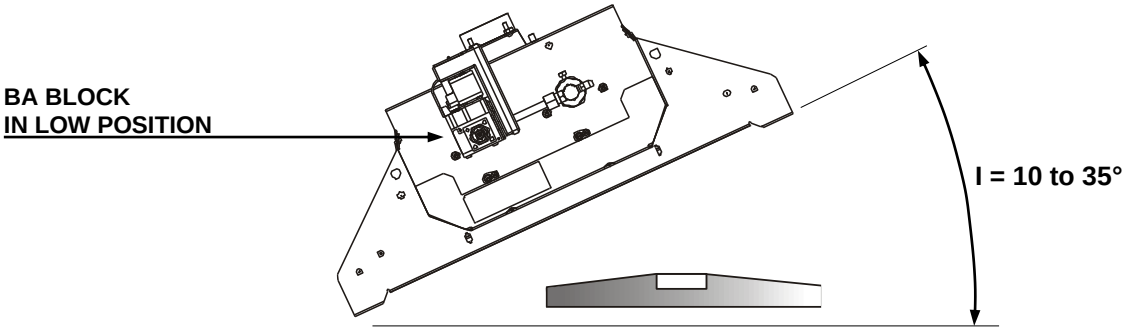
(*) For minimum 20° inclination.

Do not locat in heated aeras, inflammable materials (θmax = 70°C), gas piping and electrical wiring.

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

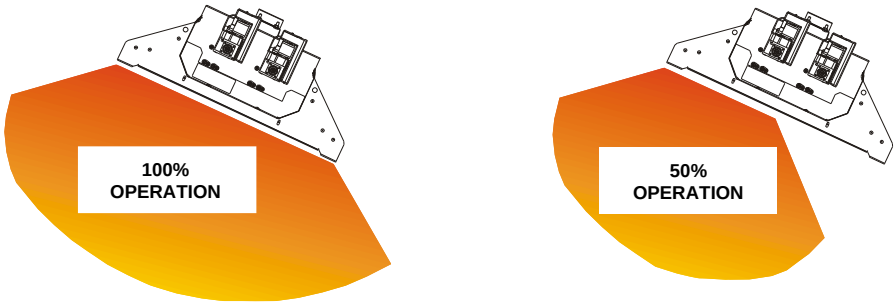
3.9 Inclination of heaters

❒ Inclination "**I**" = ***at least 10°*** *(check SBM survey)*



❒ For double speed heaters

Always light the top burner first.



3.10 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

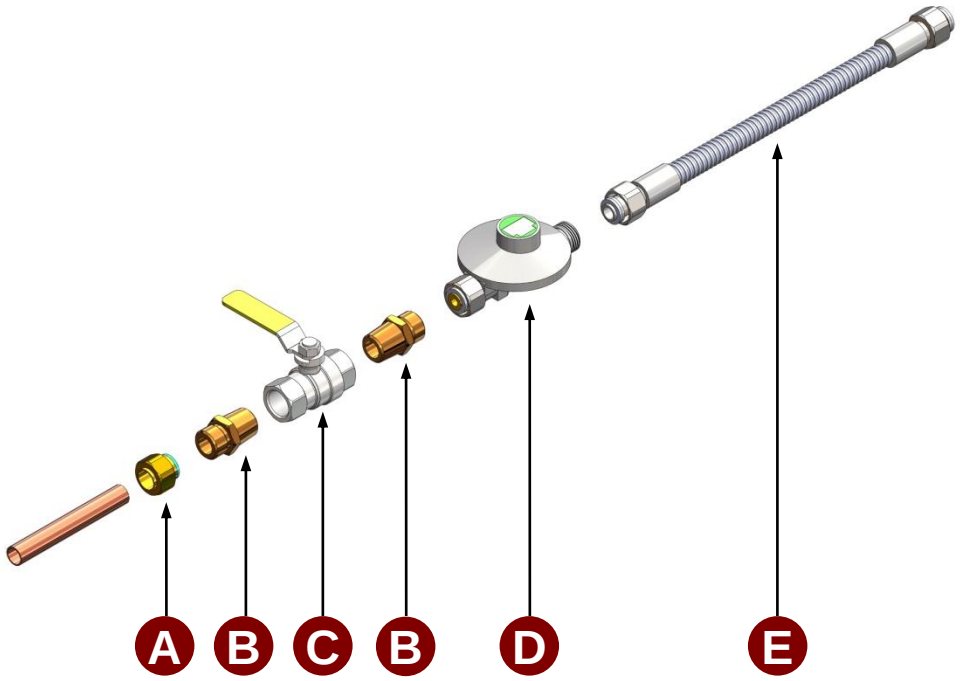
❒ **LOW PRESSURE** gas supply**.**

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

❑ Gas supply kits

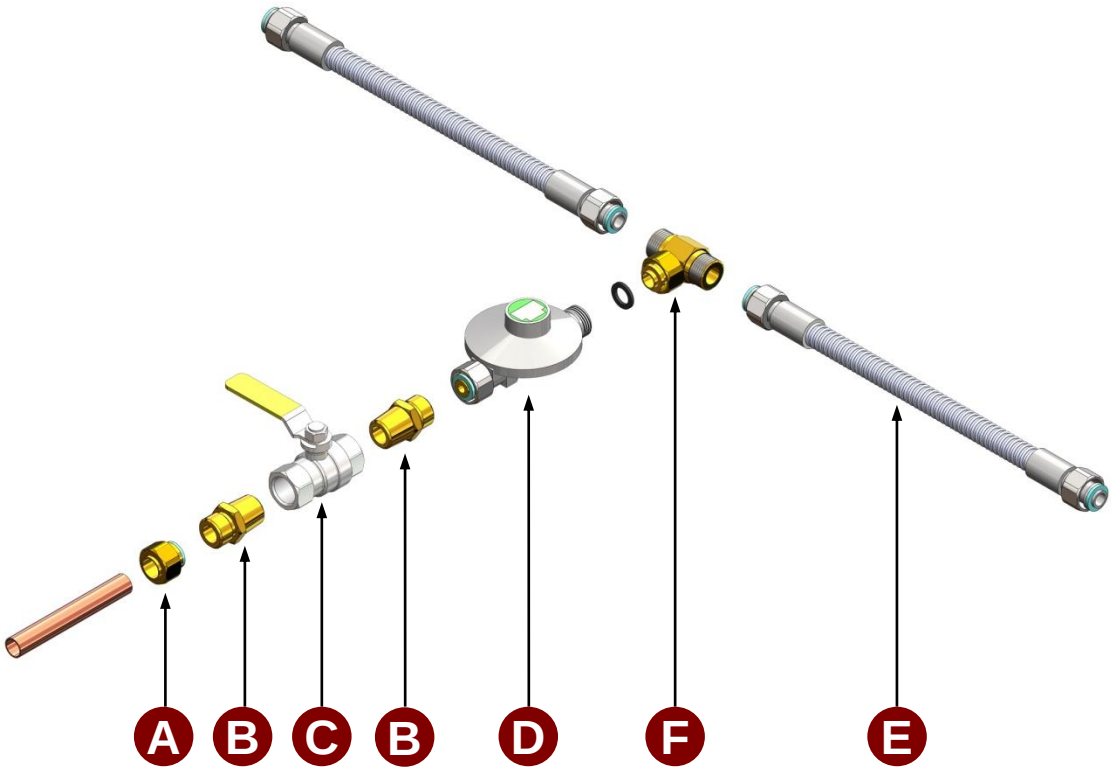
Installation single speed



		A	B	C	D			E
		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 1500mm
9805056	GAS KIT 1x1.5m BP	1	2	1	-	-	-	1
9805058	GAS KIT 1x1.5m G20 0.3b	1	2	1	-	1	-	1
9805059	GAS KIT 1x1.5m G20 4b	1	2	1	-	-	1	1
9805063	GAS KIT 1x1.5m G31 1.5b	1	2	1	1	-	-	1

Assembling: see instructions **05000570**.

Installation double speed



		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
		A	B	C	D			E
9805065	GAS KIT 2x1.5m BP	1	2	1	-	-	-	2
9805066	GAS KIT 2x1.5m G20 0.3b	1	2	1	-	1	-	2
9805067	GAS KIT 2x1.5m G20 4b	1	2	1	-	-	1	2
²9805071	GAS KIT 2x1.5m G31 1.5b	1	2	1	1	-	-	2

3.11 Electrical connections

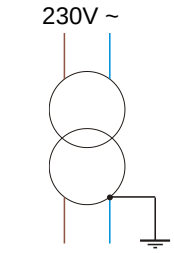
See diagram of a typical installation (3.2)

Electrical connections must be made in accordance with I.E.E regulations.

Connect all radiants to the EARTH.

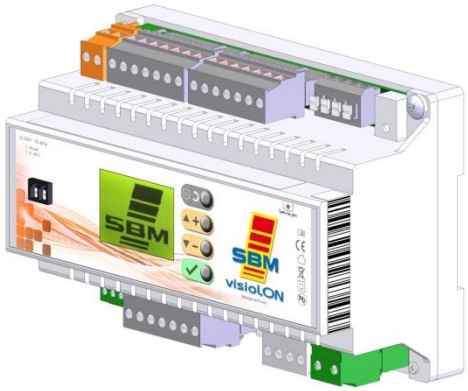
Electrical cables and bypass boxes must not be placed in a radiant heating zone.
(see 3.7)

No tension, even temporary, between Neutre and Ground* is *allowed.
In case of installation without neutral (or poor quality neutral),
provide an insulation transformer to create an artificial neutral.
To do this, connect a terminal of the secondary of the transformer directly to the ground.



230V ~
L + N + G
To Control module

- Control : **XFR-I** radiant heaters are controlled by **VisioLon Ind-I** programmable control module (SBM reference: **8050202**)
  See technical instructions **05000635**.



Each module can control **2 separated heating zones**.

This module shall be installed into a waterproof electrical box or a power distribution cabinet.

KIT ENCLOSURE 2 ZONES (SBM reference: **9704014**), including:
- Un watertight enclosure IP65 1 row 12 M with transparent door and ground terminal
- Residual current circuit breaker 16A - 30mA

Ce kit permet l'installation du module de contrôle pour piloter **40 radiants maximum** par zone.

KIT ENCLOSURE.REL. 2 ZONES (SBM reference: **9704015**), including:
- Un watertight enclosure IP65 1 row 12 M with transparent door and ground terminal
- Residual current circuit breaker 16A - 30mA
- 2 x power relays 230VAC 10A

This kit allows the installation of the VISIOLON Ind-I to control up to 100 radiant heaters per heating area.

- Temperature sensor location (1 per zone)

- Install the sensor at around 1,5 m from the ground between 2 heaters, in order to it receive an homogeneous radiation.
- Do not install the sensor in the direct sun radiation.
- Isolate the sensor from the wall where it is install to avoid the cold radiation of the wall, by an insulated material (glasswool, wood…).

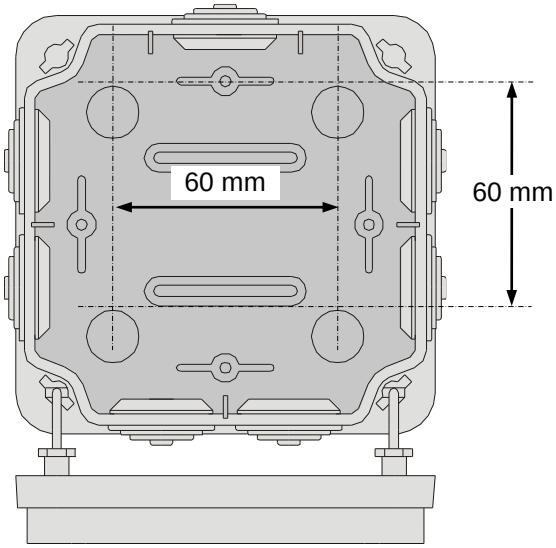
- The connection between the sensor and the module shall be done with the SBM shield cable:
  ROLL SENSOR CABLE 20M/66FT (SBM reference: **8791000**)
  ROLL SENSOR CABLE 60M/197FT (SBM reference: **8791001**)
  ROLL SENSOR CABLE 300M/984FT (SBM reference: **8791002**)
- In every case, do not install this cable into cables path with power cables.

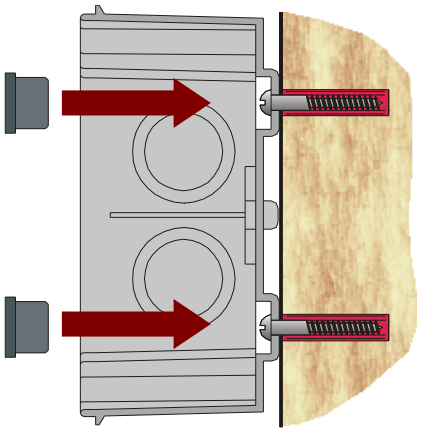
❑ Types of connection cables

LINK	TYPE OF CABLE
Control unit to RP3 (and RP3 to RP3)	3-core 0.75mm^2 85°C temperature rated PVC sheathed cable to BS6500 Table 9.
Control unit to RP32 (and RP32 to RP32)	4-core 0.75mm^2 85°C temperature rated PVC sheathed cable to BS6500 Table 9.
RP3 or RP32 to heater	Use the BA connector supplied with the heater green/yellow wire : EARTH blue wire : NEUTRAL brown wire : LIVE
Control unit to sensor	Use the coaxial cable supplied by SBM. (in 20m, 60m or 300m roles)

❒ Number of RP3 and RP32 units :1 **RP3** per type **XFR-I 16**, **XFR-I 20**, **XFR-I 24** and **XFR-I 32**.
1 **RP32** per type **XFR-I 20-2**, **XFR-I 24-2**, **XFR-I 32-2**, **XFR-I 48-2** and **XFR-I 64-2**.

❒ Fixing RP3 and RP32 units : see instructions supplied in box.



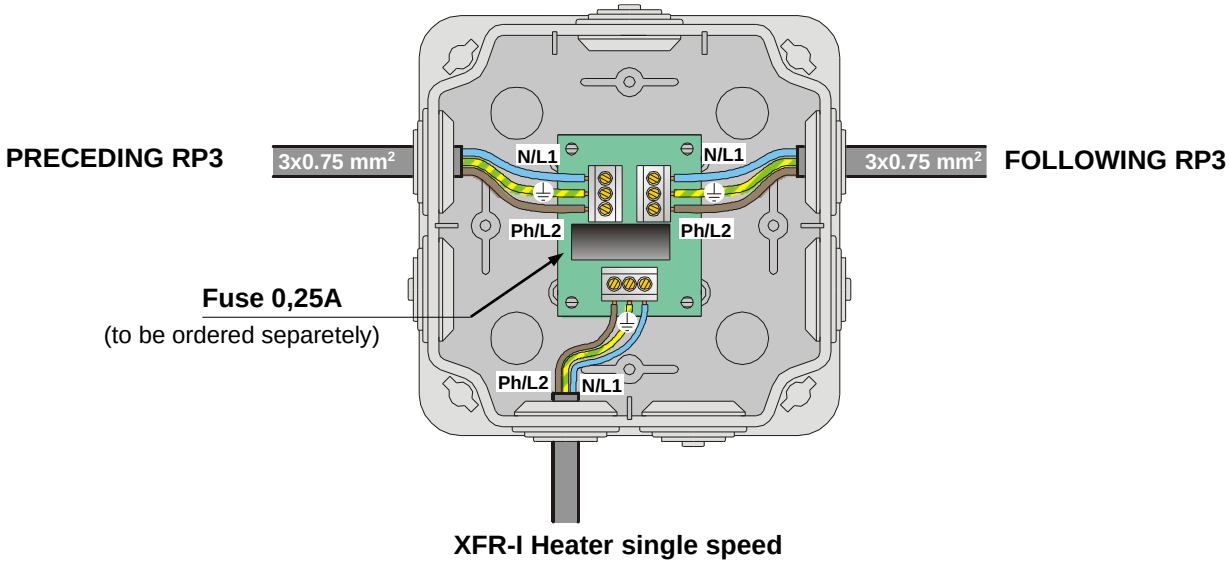


Always set the plastic protective plastic cap if the box is fasten form inside.

Install the ***RP3 box at less than 1 meter from the 579 DBC burner control of the heater, because the prewired plug are 2 meter length.***

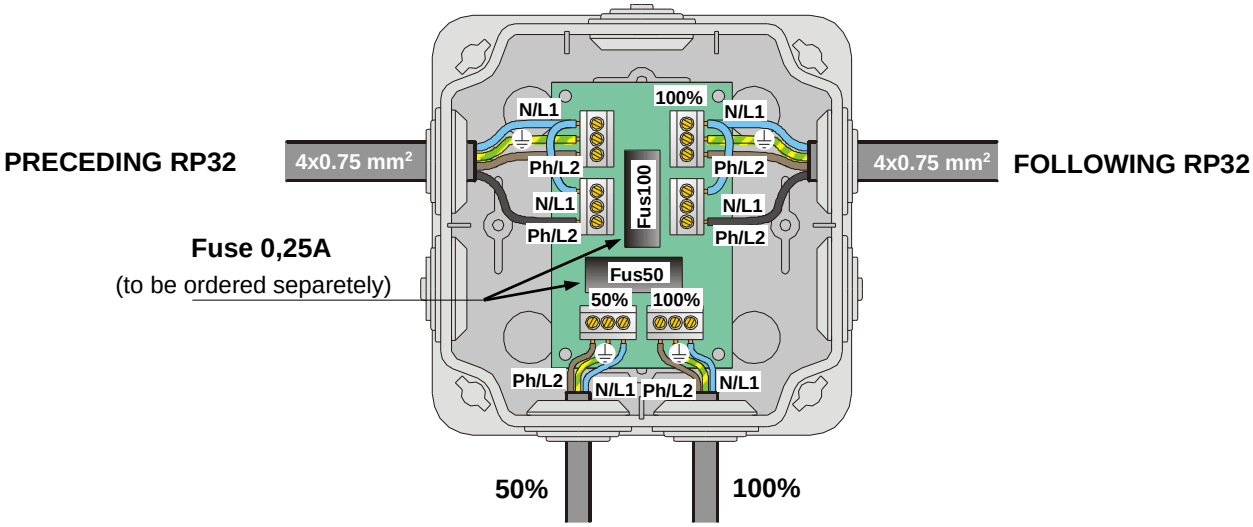
The box shall not be located into the heated area around the heater
(voir 3.7)

❒ Wire RP3's as shown in the diagram below :



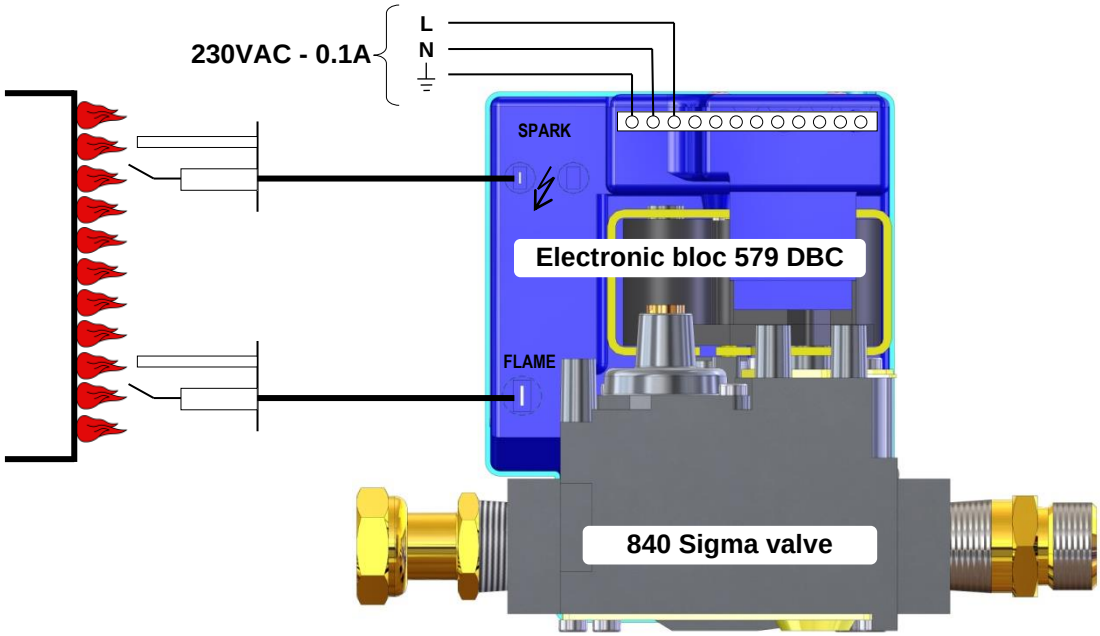
XFR-I Heater single speed

❒ Wire RP32's as shown in the diagram below :



XFR-I Heater double speed

❒ Internal electrical diagram of the heater (by speed)

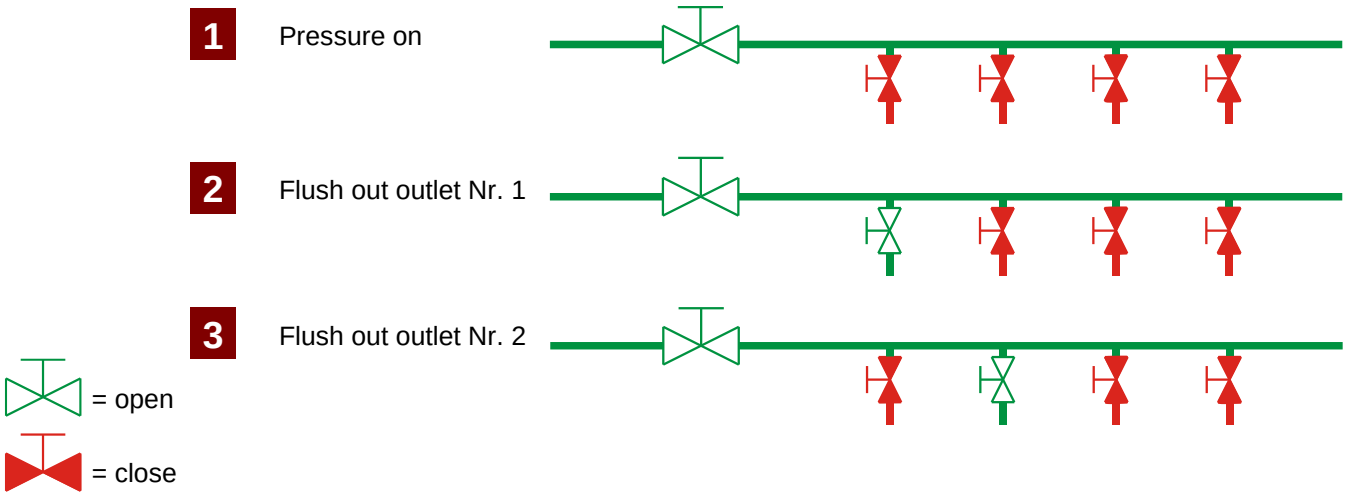


3.12 Start-up

- ❑ Clean out

  Objective : flush out impurities in the gas piping

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



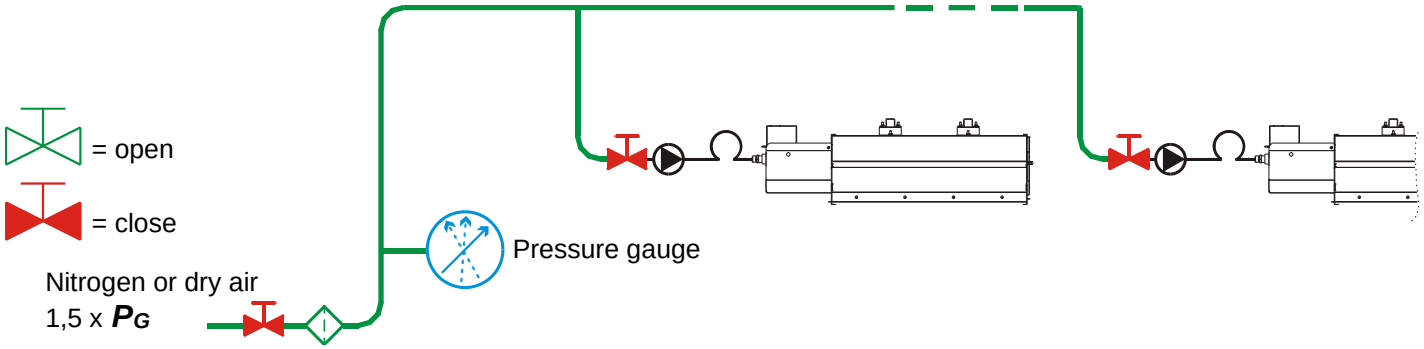
- ❑ Gas-tightness test for industrial installations (see diagram next page)

  a) Nitrogen or dry air at 1.5 times more pressure than gas operating pressure P_G

  b) Turn off the nitrogen or dry air supply and wait 15 minutes.

  c) Check the pressure gauge after 2 hours (must stay fixed).

  d) If not, 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

c) Ignition

***** 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

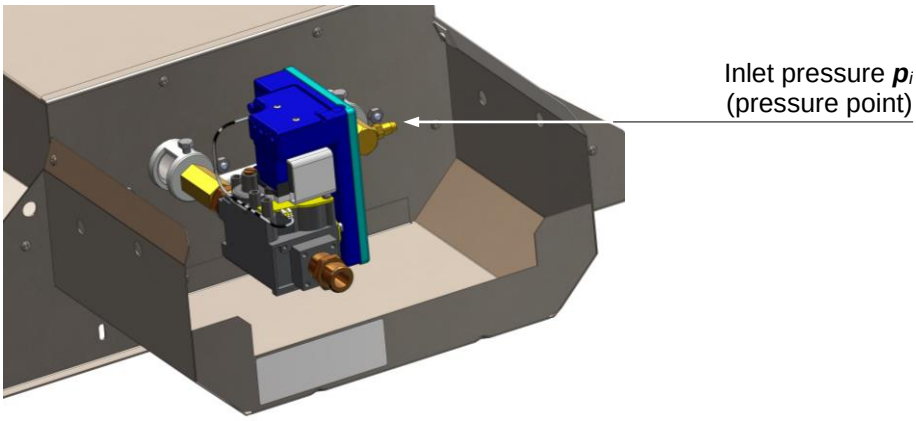
. The sequence of ignition can begin again only after switching the power off. After 5 seconds, switch the power on.

. 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 §1.2 page 4.



***** 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 theorical 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 tighten the screw of the pressure plug

Proceed to the injection pressure checking when all the heaters are operating.

e) Tightness of heater connection

***** for each heater, check gas tightness with a foaming product, from the outlet of the individual valve to the outlet fitting of the 840 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 "**XFR-I USER GUIDE**" is displayed next to the control unit, after being **stamped by the installer**.
- ❑ Provide the customer with **a copy of each XFR-I USER INSTRUCTIONS** supplied in the product boxes.
- ❑ Indicate to the customer the **locations** of :

  - V alves.

  - Electrical switches.

  - control units.
- ❑ **Explain** to the customer how all **control units operate**.
- ❑ Plan the **initial maintenance visit** (**1 year** after start-up).

Give to the user an example of each instructions included into the box and the installer instructions.

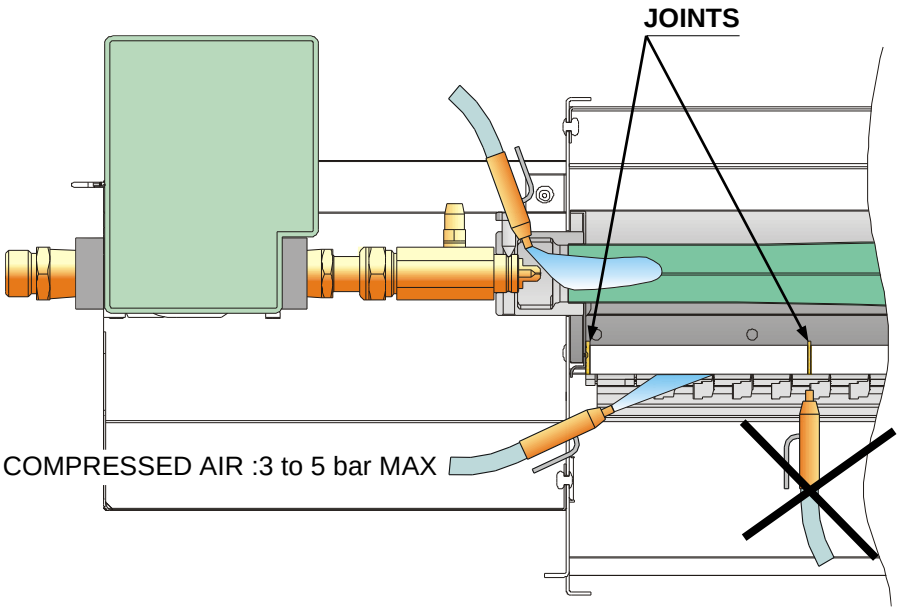
5. MAINTENANCE

Do not forget to turn off the concerned appliance and to close the gas valve before maintenance operation.

List of operation to realise during the yearly maintenance visit:

- ❑ Removal of dust from heaters

  - on site, without disassembly, heaters off and cold.



DO NOT BLOW AIMING AT JOINTS BETWEEN CERAMIC PLATES (Risk of damaging the burner)

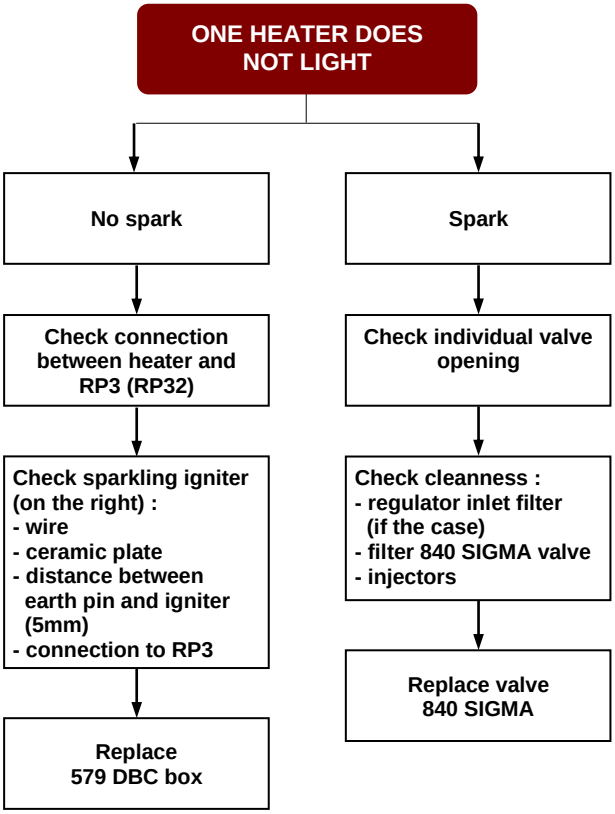
- ❑ Check condition of ceramic plates (**visual inspection**).
- ❑ Check heater fixing
- ❑ Check tightness of gas accessories
- ❑ Check heater operation:
  Switch on all heaters, check ignition and combustion. A combustion temperature of approximately 900°C (uniform orange red colour) ensures heater cleanliness and correct gas supply pressure.
- ❑ Check the good operation of control unit(s).
- ❑ Check all temperatures settings

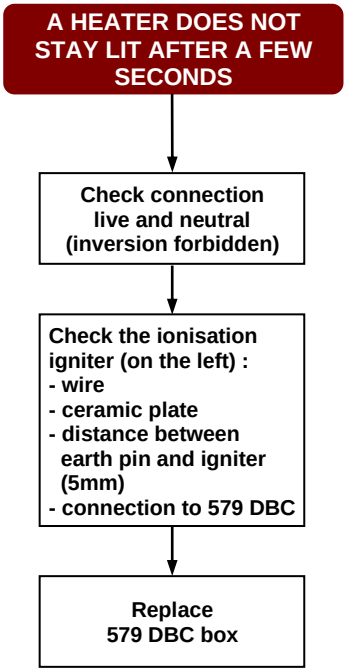
Once the maintenance done, reset the installation settings with initials.

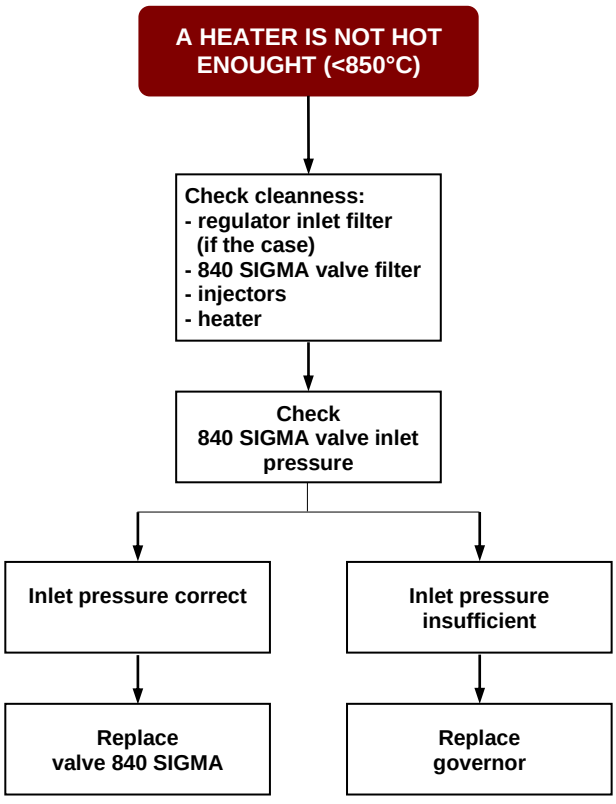
6. REPAIRS

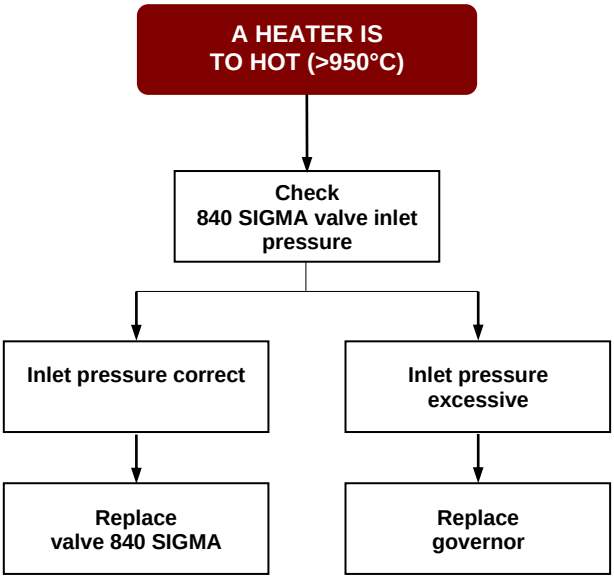
❒ Problem on a single heater.

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









❒ Troubles on a group of heaters.

First, *do not forget to check the compatibility of the heaters with the gas type and pressure.*

A GROUP OF HEAHERS DO NOT LIGHT

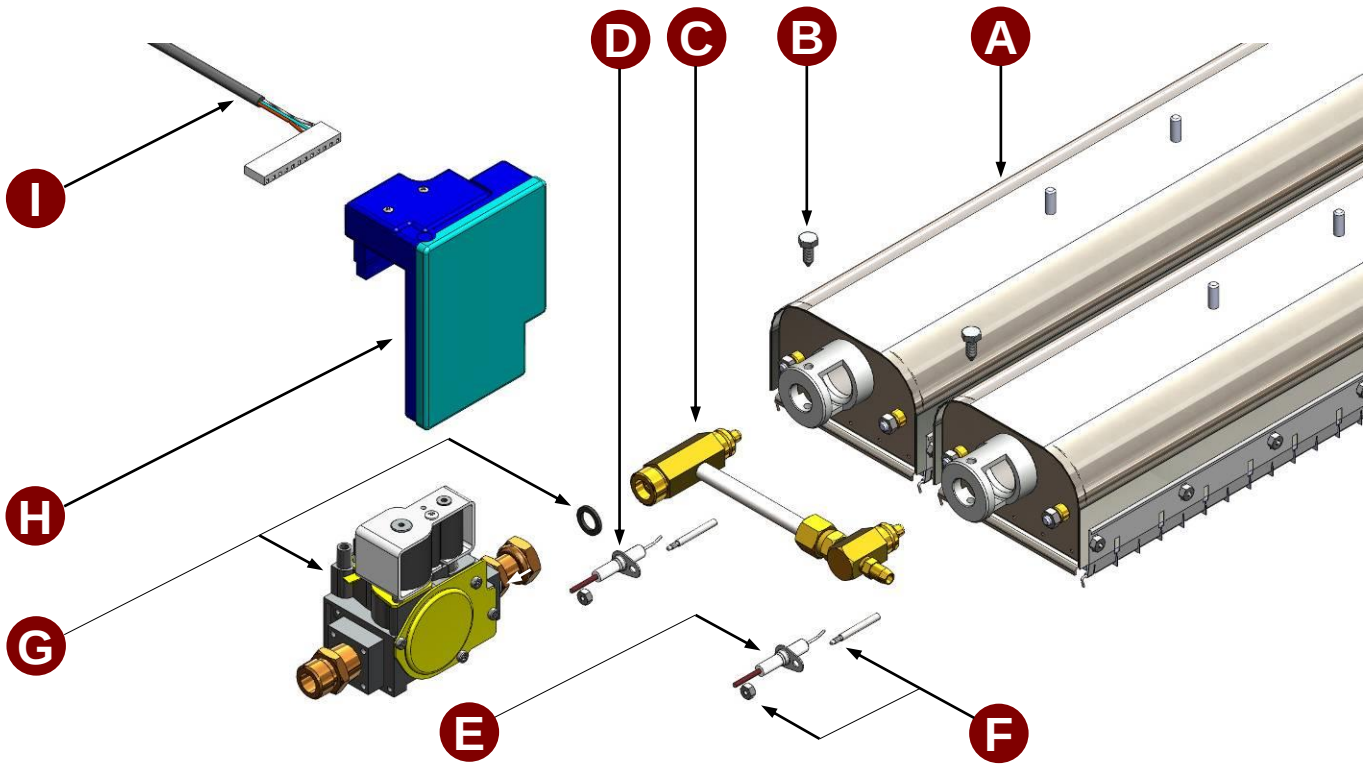
- **No spark (electrical defect)**
  - **Check voltage upstream from the module**
  - **Check temperature setting**
  - **Check voltage downstream from the module**
  - **Check output voltage of the first RP3 or RP32**
  - **If no voltage, check :**
    - cable
    - connections
- **Spark (gas defect)**
  - **Check main valve opening**
  - **Check gas tank or gas supply pressure**
  - **Check cleanliness :**
    - Main filter
    - Regulators inlet filters (if the case)
    - 840 SIGMA valve filters

THE HEATERS SWITCH ON AND OFF AFTER A FEW SECONDS

- **Check connection live and neutral (inversion forbidden)**
  - **Install an isolation transformer (see § 2.11 page 21)**

❑ XFR-I heater spare parts.

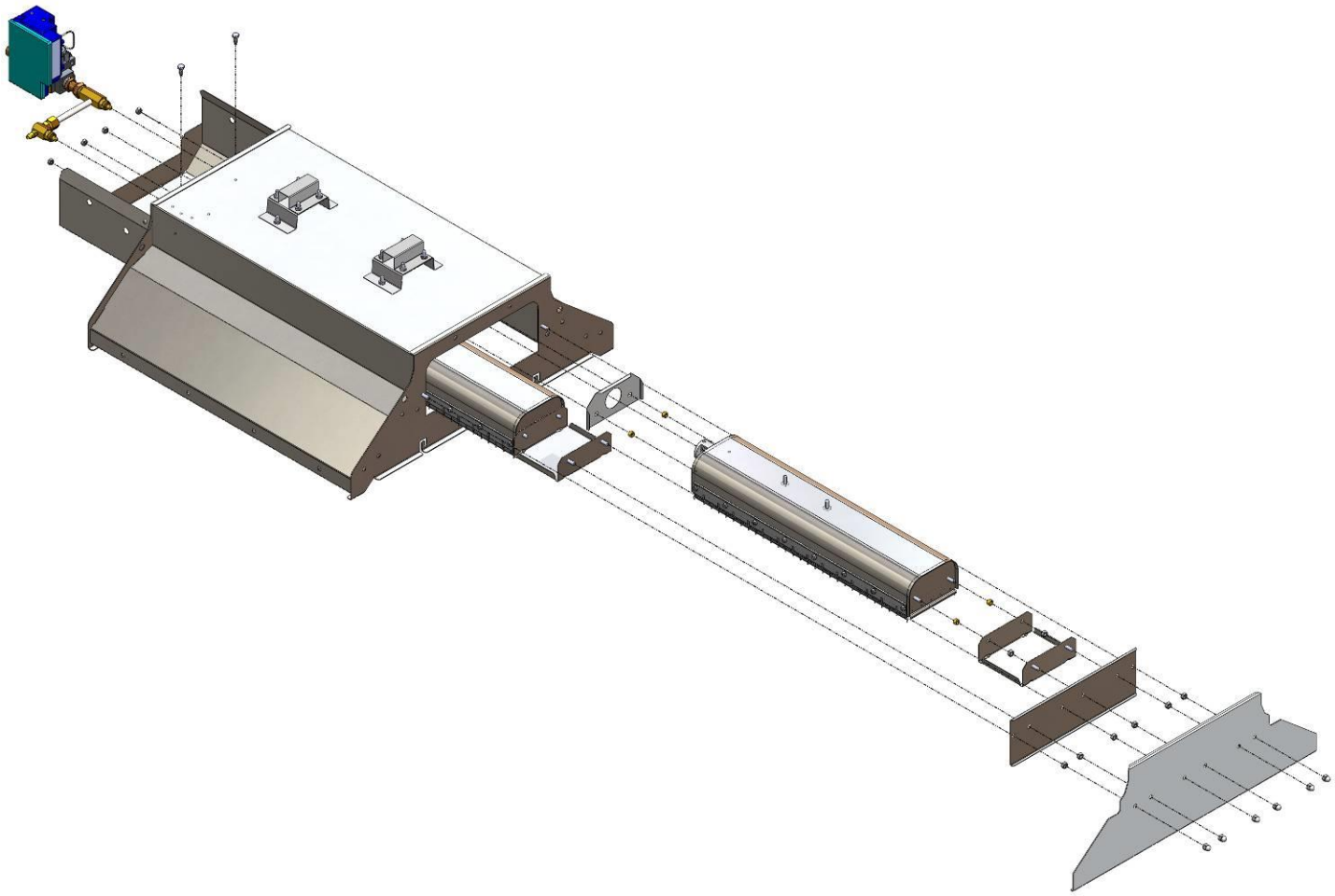
For all order of spare parts, please specify:
- The radiant type and its serial number
- The gas type.
- The gas pressure.
All these informations are shown on the data label stick on the heater.



REP.	SPARE PARTS	
A	BR 10 SX 96	(burner for XFR-I 20 and XFR-I 20-2)
	BR 12 SX 96	(burner for XFR-I 24, XFR-I 24-2 and XFR-I 48-2)
	BR 16 SX 96	(burner for XFR-I 16, XFR-I 32, XFR-I 32-2 and XFR-I 64-2)
B	10 LOCKING SCREW 6X100/16	(supplied by 10)
C	BLOC U-0-XXX-XXX-PP-A-12G	(supplied with its injectors mounted for XFR-I 16, 20-2, 24-2 and 32-2)
	BLOC D-0-XXX-XXX-PP-A-12G	(supplied with its injectors mounted for XFR-I 20, 24, 32, 48-2 and 64-2)
D	IGNITER 300 CLIP 4.8	(flame detector)
E	IGNITER 250 CLIP 2.8x0.5	(ignition electrode)
F	EARTH PIN L3-NUT	(supplied with a nut)
G	VALVE 840 SIGMA - FITTINGS	(supplied with 2 fittings mounted)
H	BLOCK 579 DBC	
I	XFR-I CONNECTOR 2M / 6 1/2'	

❑ Burners dismantling.

For XFR-I 48-2 and XFR-I 64-2, separate the 2 heaters, before burners dismantling.



7. CHANGING THE GAS USED

The gas conversion of the appliance shall be done by a qualified installer

❒ Gas used in Great Britain, Ireland and Turkey with the XFR-I heater range

FAMILY	GAS	OPERATING PRESSURE
I_{2H}	G20	20 mbar
I_{3P}	G31	37 mbar

❑ Gas conversion:

To realise the gas conversion from one to another, please contact SBM.

❑ Principle

This operation must be down by a skilled technician.
It is composed of changing the BLOCK U-0-XXX-XXX-PP-A-12G
or (and) the BLOCK D-0-XXX-XXX-PP-A-12G (see page 29) and setting the valve 840 SIGMA.

SBM can supply a conversion kit, composed of :

- one block : BLOCK U-0-XXX-XXX-PP-A-12G or BLOCK D-0-XXX-XXX-PP-A-12G with gas specific orifices.
- a gas changing label to stick near the rating plate.

With all conversion kit order, please indicate :

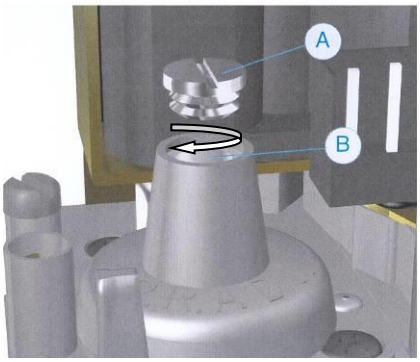
- type / serial number of the heater.
- gas type.
- operating pressure.

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

❑ Successive operations :

- Replace BLOCK U-0-XXX-XXX-PP-A-12G or BLOC D-0-XXX-XXX-PP-A-12G.
- Light the heater.
- Check the inlet pressure of the heater by means of an appropriate pressure gauge connected to the pressure control socket **C**. *(see tables page 4 for inlet minimal, nominal and maximal pressures).*
- Check the injecting pressure at pressure control socket **D**. *(see page 3)*
- Adjust this injecting pressure by means of setting screw **B** after removing the cap **A**. *(see tables page 4 for injecting pressures)*
  When the regulator needs to be blocked, tight the screw **B** to maximum but without excessive force.

Do not forget to tight again the screws when removing gauge hose.



- Stick the new gas changing label near the rating plate.

When replacing a 840 SIGMA valve, check all settings as described above.

8. COMMISSION REGULATION (EU) 2015/1188

Requirements for product information applicable to commercial local space heaters

Luminous heaters XFR-I

Model identifier	XFR-I 16	XFR-I 20	XFR-I 20-2	XFR-I 24	XFR-I 24-2	XFR-I 32	XFR-I 32-2	XFR-I 48-2	XFR-I 64-2
Type of heating	Luminous heaters								
Fuel	Gaseous								
Space heating emissions									
NO_x emissions (mg/kWh $_{PCS}$)	< 50								
Heat input									
Nominal heat input (kW $_{PCS}$)	6,4	7,4	7,4	8,9	8,9	11,4	11,4	17,8	22,9
Minimum heat input (kW $_{PCS}$)	n.d	n.d	3,7	n.d	4,45	n.d	5,7	8,9	11,45
Minimum heat input (% of P_{nom})	n.d	n.d	50	n.d	50	n.d	50	50	50
Radiant factor									
Radiant factor at nominal heat output	0,77	0,85	0,85	0,82	0,82	0,77	0,77	0,82	0,77
Radiant factor at minimum heat output	0,77	0,85	0,85	0,82	0,82	0,77	0,77	0,82	0,77
Auxiliary electricity consumption									
At nominal heat input (kW)	0,019	0,019	0,038	0,019	0,038	0,019	0,038	0,038	0,038
At minimum heat input (kW)	0	0	0,019	0	0,019	0	0,019	0,019	0,019
In standby mode (kW)	0	0	0	0	0	0	0	0	0
Heat output control type									
Single stage	Yes	Yes	No	Yes	No	Yes	No	No	No
Two stages	No	No	Yes	No	Yes	No	Yes	Yes	Yes
Modulating	No	No	No	No	No	No	No	No	No
Seasonnal efficiency									
Seasonnal space heating efficiency	91,6 %	95,0 %	97,4 %	93,8 %	96,2 %	91,6 %	94,0 %	96,2 %	94,0 %

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