INSTALLATION AND SERVICING INSTRUCTIONS FOR SOLARGLOW GAS FIRED RADIANT PLAQUE HEATERS

MODELS: SG21 - SG31 - SG41
SG42 - SG32 - SG82

AMBIRAD

WARNING

The SG radiant panel you are about to operate has required several years of research and development.

The range referred to in these instructions has successfully undergone the various tests and control operations required under the EC directive applicable to gas burning apparatus: mechanical and electrical safety, reliability, safe combustion....

The CE label is the official recognition of the quality of the design, the manufacturing and the performing of the apparatus, because of the requirements it sets.

Theperformance and life time of the apparatus will best be preserved if the use and the maintenance thereof meet state of art requirements and existing regulations.

The manufacturer offers a works 1 year guarantee in respect of parts and labour as from the date of delivery.

The guarantee shall apply only when instructions which form the manufacturer's recommendations are compiled to and when the gaurantee form supplied with each apparatus is retuned.

Having ascertained that the installation complies with the recommendations, the contractor will ensure that:

1/ the user is informed :

- that he cannot, on his own will, alter the design of the apparatus; **Any alteration (exchange, removal....) of safety components or parts affecting the efficiency of the apparatus or safe combustion shall systematically result in the withdrawal of the CE label**

- **that the cleaning and maintenance prescribed should be carried out**. A yearly preventive maintenance is recommended in industry but becomes compulsory under E.R.P (Establishment Receiving the Public) requirements. the manufacturer can carry out the operation as part of a maintenance contract.

2/ to supply the user with the instructions for maintenance and use

In full agreement with the CE label awarding body, the company, reserves the right to update these instructions. The instructions attached to the product upon shipment shall form the sole binding document.

DATA SHEETS

AMBIRAD

❶ HEATING PRINCIPLE

Any object at a temperature above the absolute zero emits energy in the form of electromagnetic radiation.

These rays travel in a straight line and may be reflected and converted into heat when hitting a solid.

These rays are called infrared wherever temperatures emitted are of the order of a few hundred degrees.

As it does not heat the air, the method is particularly well suited for :

the heating of large size buildings :

- the heating of small or poorly insulated buildings,

and : - intermittent heating,
- area heating.

❷ WORKING PRINCIPLE

(See Figure Nb. 1).

The SRII radiant panel is a "direct" overhead heating system, burning natural gas or propane which complies with the European directive applicable to gas-fired apparatus. It generates heat through infrared radiation, the air needed as a combustive is sucked in from ambient atmosphere and the combustion products are subsequently released into the surrounding atmosphere.

The line includes 6 models with a useful power ranging from 6,2 to 25,7 kW . The six models are available in standard version or the more silent ‘Place of Cult’ version.

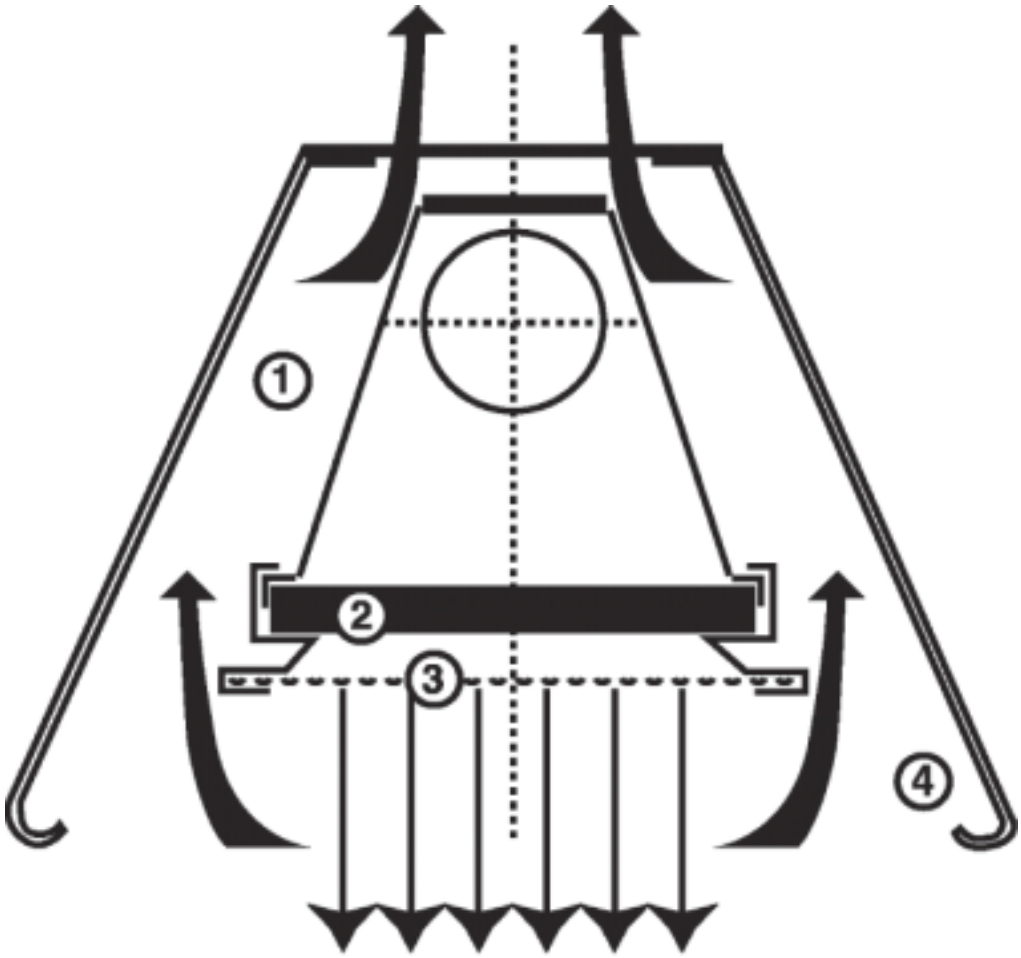
The panel burns gas on the surface of a wafer thin ceramic plate.

A refractory steel grid makes it possible to tap some of the energy contained in the combustion products while increasing thermal exchanges between the flame and the plaque.

When heated, the ‘grid-plaque’ assembly emits infrared rays directed towards the bodies to be heated by the reflectors.

Burnt up products end up alongside the premixing chamber which improves efficiency thanks to the pre-heating of the combustive mixture..

The SG 21, 31, 41, 61 and 81 operate on a one-speed basis (fail-safe).



PRINCIPALES CARACTERISTIQUES DE CONSTRUCTION
DU PANNEAU RADIANT SR SOLARONICS

1. PRECHAUFFAGE DE LA CHAMBRE DE PREMELANGE
2. PLAQUETTES CERAMIQUE ALVEOLAIRE HAUTE EMISSIVITE (BREVET SOLARONICS)
3. GRILLE METALLIQUE HAUTE TEMPERATURE
4. REFLECTEURS

Fig 1

The SG 42, 62, 82 models which include two burners each allow a two-rate operation (100 %, 50 % of the rated power):- if demand is low one burner only will come on which spells increased comfort for the user while reducing energy consumption (Figure n° 2).

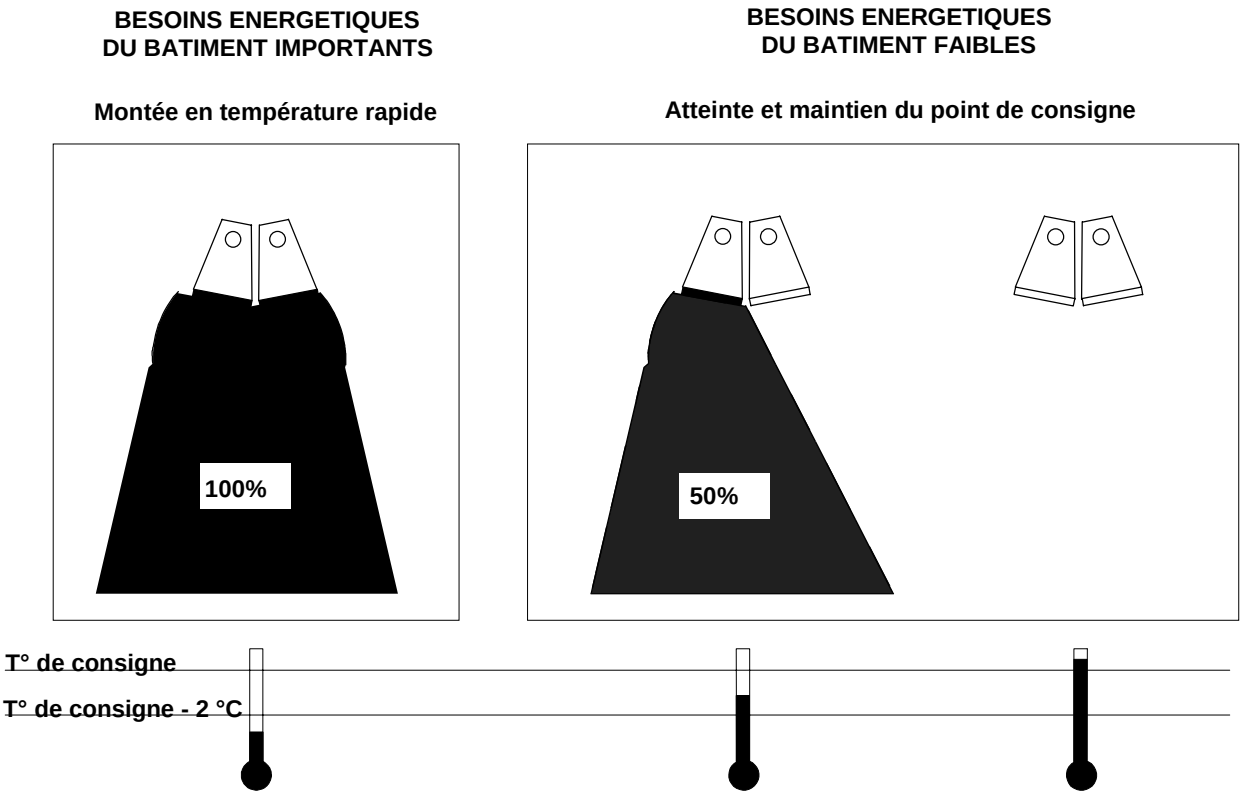
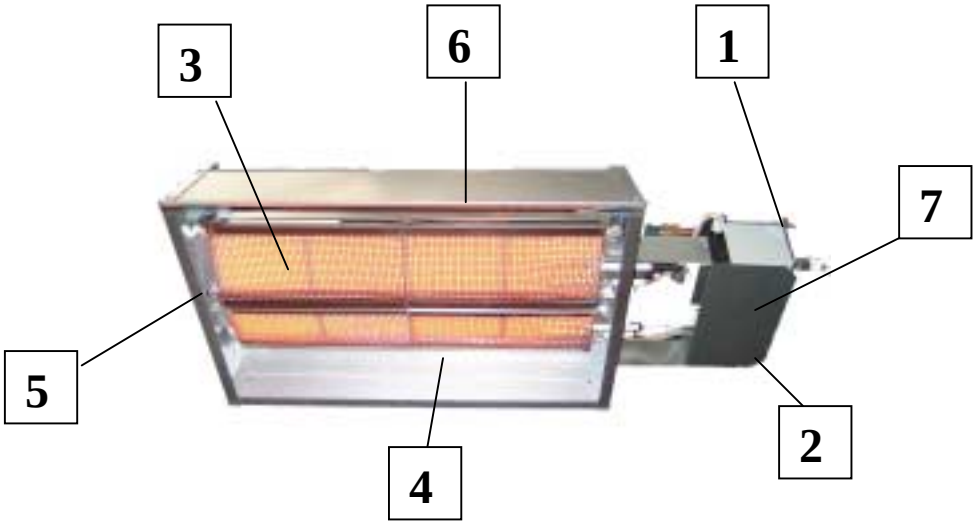


Fig. 2

On the high/low models, the profile and the location of the burners and reflectors have been designed so as to maintain an identical floor area whether operating in low or high fire.

❸ DESCRIPTION

Label



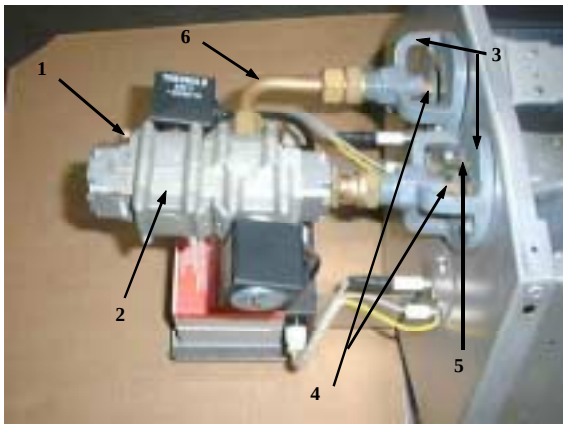
Note : the coils of the electrovalve may be adjusted differently according to the model.

REP	DESIGNATION	Q	REMARKS
1	Gas Line	1	For details, see following page
2	Control and Safety Box	1	HV light-up Light-up management and safety control
3	Burner	1 2	(mod. SG 21, 31, 41) (mod. SG 42, 62, 82, 61,81)
4	Side Reflector	2	Aluminized steel
5	End Reflector	2	Aluminized steel
6	Casing	1	Aluminized steel
7	Electrode Plate	1 2	For SG 21, 31, 41 For SG 42, 62, 82, 61, 81 including : - light-up electrode - ionisation electrode - ground electrode

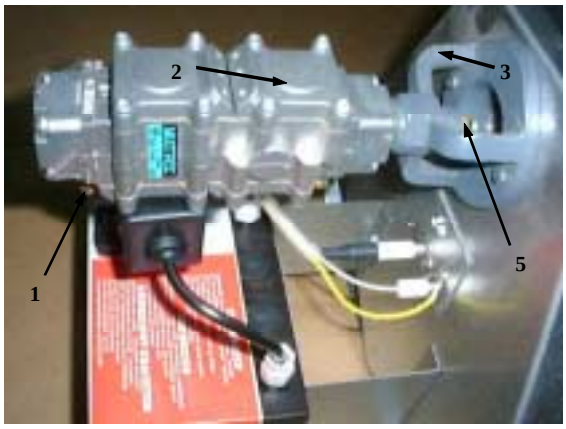
- GAS LINE

The gas is fed directly from the valve to the injector.

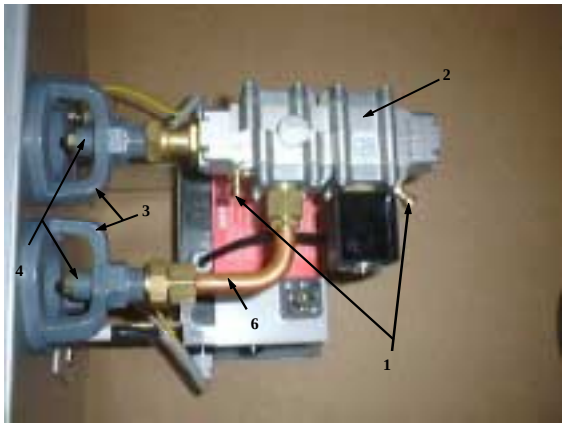
SG 42,62,82 Models



SG 21,31,41 Models

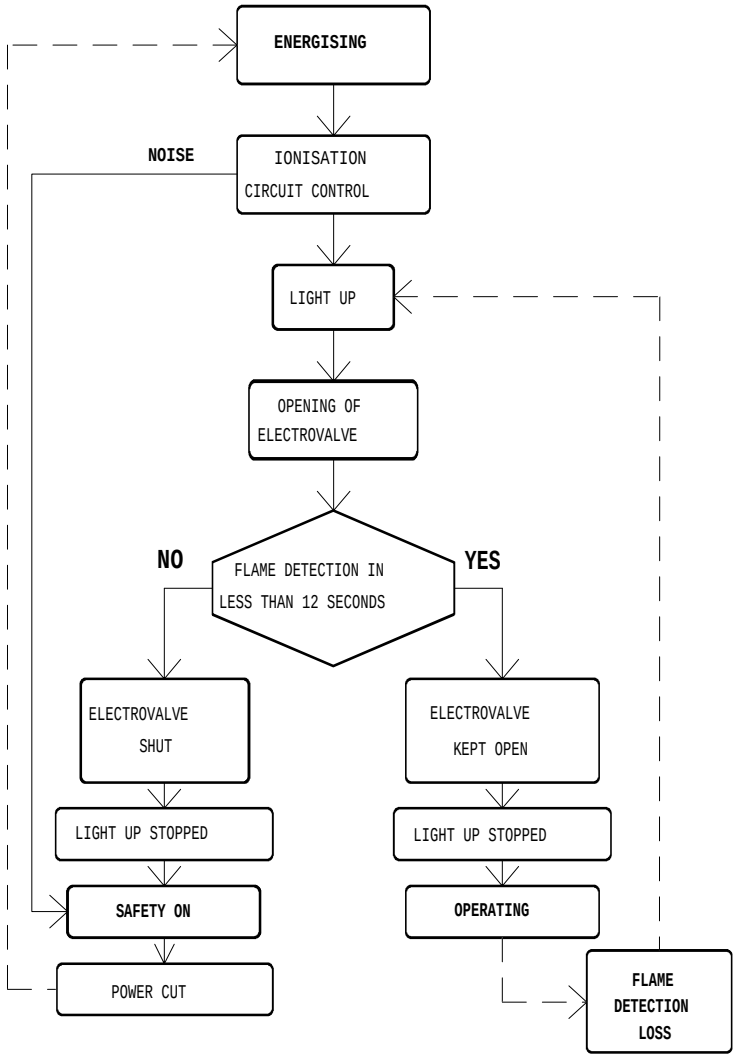


SG 61,81 Models



REP	DESIGNATION	Q	REMARKS
1	Pressure intake		
2	Electrovalve	1	- Class A aluminium 1/2" socket THEOBALD. - Single for SG21, 31, 41, 61, 81 - Double for SG42, 62, 82. - Fitted with two pressure nipples.
3	Converging ring	1 2	For SG 21, 31, 41 For SG 42, 62, 82, 61, 81 Cast iron, protective paint.
4	Injector	1 2	On SG 21, 31, 41 On SG 42, 62, 82, 61, 81 (∅ and type page 12)
5	Diaphragm	1	(∅ and numbers see page 12)
6	Elbow junction	1	On SG 42, 62, 82, 61, 81 only

- OPERATING CYCLE



❹ TECHNICAL FEATURES

4.1 POWER SUPPLY

- 230 V 1ph (+10% / -15%) 50 Hz

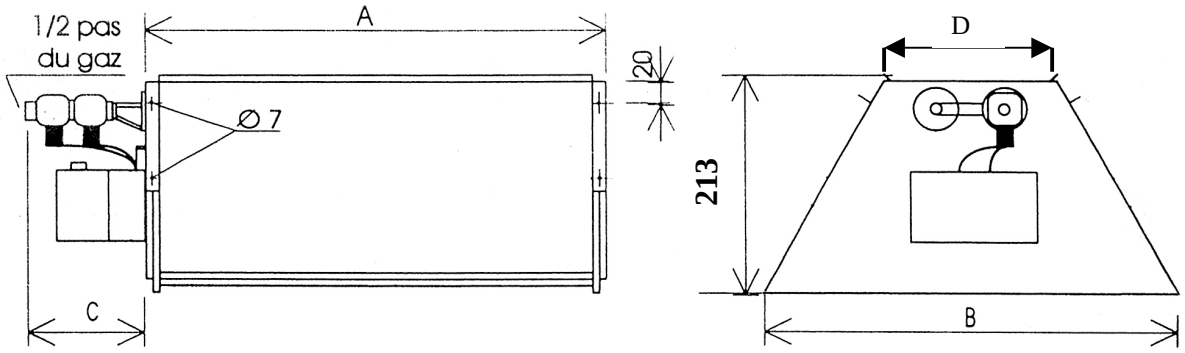
4.2 ELECTRIC POWER USED

- SG 21,31,41, 61, 81 : 30 VA
- SG 42, 62, 82 : 60 VA

4.3 FIRING AND FLAME CONTROL DEVICE

- ionisation detection level : 0,6 µA
- fuse : 1A

4.4 SIZE AND WEIGHT



MODELS	A mm	B mm	C mm	D mm	WEIGHT kg
SG 21	602	315	194	150	11
SG 31	871	315	194	150	13
SG 41	1140	315	194	150	15
SG 42	602	435	205	320	15
SG 61/62	871	435	205	320	18,5
SG 81/82	1140	435	205	320	22

4.5 OPERATING FEATURES AND INJECTORS

G 25 : Natural gas

G 20 : Natural gas

G 31 : Propane

MODEL	GAS	PRESSURE SUPP. mbar	INJECTOR			DIAPHRAGM		NOMINAL THERMAL FLOWRATE kW (PCI)	Gas flowrate at 15°C / 1atm	POWER RADIATED kW
			Nb	∅ (mm)	S	Nb	∅ (mm)			
SG 21	G25 G20 G31	25 20 37	1 1 1	1,90 1,85 1,30	II I I	1 1 1	26 32 -	6,2	0,76 m3/h 0,66 m3/h 0,48 kg/h	3,3
SG 31	G25 G20 G31	25 20 37	1 1 1	2,40 2,35 1,55	II I I	1 1 1	28 32 -	9,75	1,20 m3/h 1,03 m3/h 0,76 kg/h	6,4
SG 41	G25 G20 G31	25 20 37	1 1 1	2,80 2,70 1,75	II I I	1 - -	32 - -	12,8	1,57 m3/h 1,36 m3/h 1 kg/h	8,6
SG 61	G25 G20 G31	25 20 37	2 2 2	2,40 2,35 1,55	II I I	2 2 2	28 32 -	19,5	2,40 m3/h 2,06 m3/h 1,52 kg/h	10,5
SG 81	G25 G20 G31	25 20 37	2 2 2	2,80 2,70 1,80	II I I	2 - -	32 - -	25,7	3,16 m3/h 2,72 m3/h 2,00 kg/h	16,7
SG 42	G25 G20 G31	25 20 37	2 2 2	1,90 1,85 1,30	II I I	2 2 2	26 32 -	12,4	1,52 m3/h 1,31 m3/h 0,97 kg/h	6,3
SG 62	G25 G20 G31	25 20 37	2 2 2	2,40 2,35 1,55	II I I	2 2 2	28 32 -	19,5	2,40 m3/h 2,06 m3/h 1,52 kg/h	10,5
SG 82	G25 G20 G31	25 20 37	2 2 2	2,80 2,70 1,80	II I I	2 - -	32 - -	25,7	3,16 m3/h 2,72 m3/h 2,00 kg/h	16,7

The values regarding the lower thermal capacity are for information only (LTC) at 15°C, under one atmosphere (1013,25 mbar)
- G25 : 8,13 kWh/m^3
- G20 : 9,46 kWh/m^3
- G31 : 12,8 kWh/kg

INSTALLATION

❶ REGULATIONS

The unit shall meet existing recommendations and regulations, and set up in compliance with the state of art standards applicable to all the official bodies commissioned to that effect, therefore, the contractor shall comply with the requirements set forth under Standard NF P 45-204 regarding gas-burning apparatus and under NF C15-100 Standard.
(NF : French Standard laid down by AFNOR)
It shall also be incumbent upon the contractor to comply with all regulations relevant to the type of premises :

REGARDING INDUSTRIAL PREMISES

Industrial premises shall meet, at least the requirements laid down under the French "Labour Acts" regarding ventilation and waste disposal (sections R232-1 to R232-4). Moreover, some facilities have been classified under the French environmental protection Acts ; these fall under the provisions of Act n°76-663 of 19/07/1976, referred to in the three volumes of "Installations Classées pour la Protection de l'Environnement" (Facilities classified under the Environment Protection Acts).

REGARDING (E.R.P) (Establishments Receiving the Public)

The provisions applicable to the apparatus, its setting up, its commissioning, and its maintenance are set forth in sections CH1 to CH58 and GZ1 to GZ30 of "Règlement de Sécurité contre les Risques d'Incendies et de Panique dans les E.R.P." (Safety Provisions Regarding Fire Hazards and anti-Panic Measures in Public Funded Establishments) as well as in local Health and Safety Regulations.

The contractor shall make sure that the air intakes permit the flow rates recommended under existing regulations with respect to the SR II (*) plus those required under the general rules and principles relevant to the ventilation of buildings other than housing buildings (Local Health and Safety Regulations).

(*) Regarding public establishments these rates are 10 Nm3/h per kW of installed thermal capacity (cf sections CH 54 and GZ 21 of the Health and Safety Regulations regarding fire protection in Establishments Receiving the Public).

Upon installation completion, the contractor shall verify that each SR II works effeciently and is connected to the gas and electricity mains.

Finally, he will ensure that the user is informed on the operating and the statutory yearly maintenance procedures of the apparatus (cf. JO of 14/08/80 - Sections CH 57 and CH 58). He shall draw up a final acceptance report with the user and supply the latter with the relevant usage instructions.

❷ PACKAGING

The packaging shall include :

- the complete unit with gas line and electronic board fully fitted and connected.
- a bag containing :

    - 4 hooks
    - 4 springs
    - 1 mobile square junction box for electric supply

❸ LAYOUT

The SR II has been designed for use in industrial environments.

However, it would be desirable to let us know the type of environment.

The power, the quantity, the height and the positioning of the SG units shall meet installation requirements.

- SETTING UP OF THE SOLARGLOW

The following recommendations shall be complied with :

- Maximum and minimum heights recommended :

MODEL	SG 21	SG 31	SG 41	SG 51	SG 61 SG 62	SG 81 SG 82
Minimum height	4	4	5	5	6	8
Maximum height	5	6	7	7	8	12

- Minimum distance in relation to walls : See Figure nb. 3.

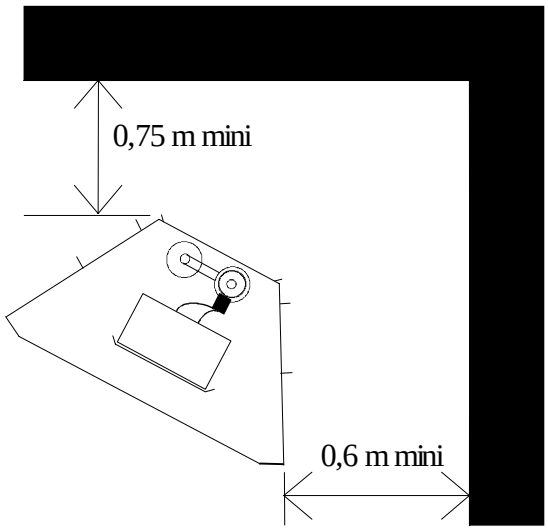


Fig. 3

NOTA : .Wherever the unit is installed above an overhead conveyor or any other piece of equipment likely to stand at less than 1 M from the apparatus, get in touch with our R&D and Commercial Back-up Department

- **INSTALLATION PROCESS**

HANGING UP OF THE SOLARGLOW

The SG are supplied with suspension springs, these must be used imperatively so as to avoid any vibrations, or noises due to the possible presence of conveyor bridges and which may impede the sound working of the unit.
The units may be suspended from thin chains subject to compliance with the basic fitting diagrams n° 4,5,6 and 7 pages 16 and 17.

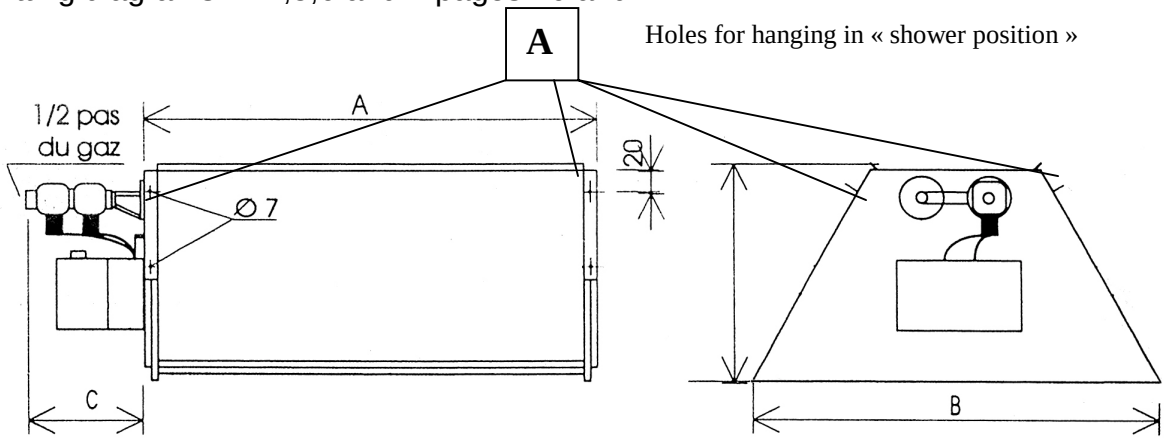
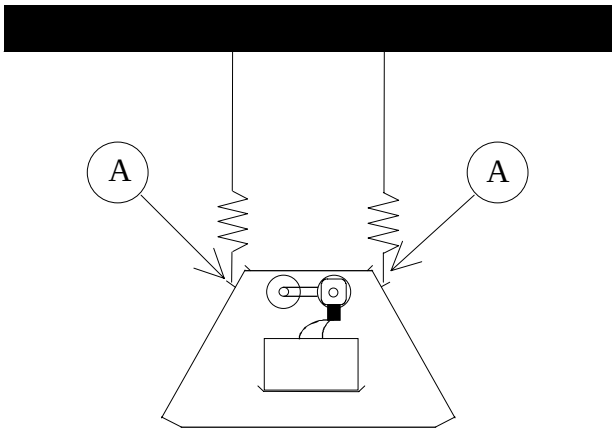
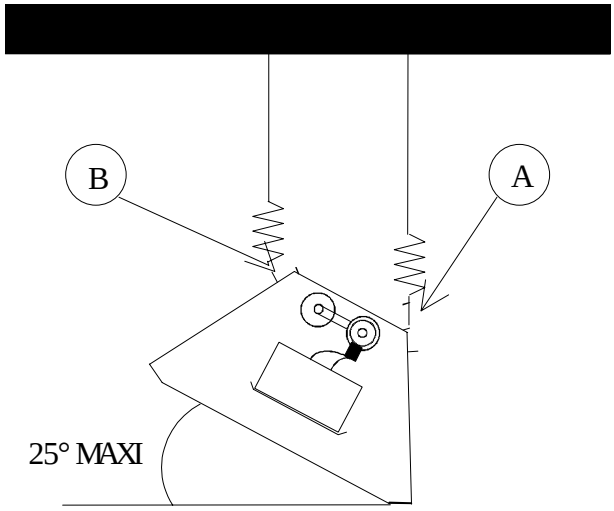


Fig. 4



POSITION PLUIE

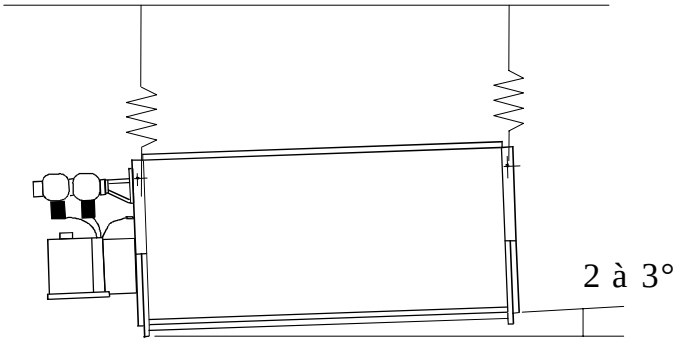
Fig. 5



POSITION INCLINEE

Fig. 6

For units in a tilting position, it is imperative to check that the first speed in a high position. The first speed's burner is located on the left handside when looking at the gas line side.



POSITION PLUIE OU INCLINEE

Fig. 7

A combination of various types of setups allow to cover the entire area in a uniform way (figure n°8).

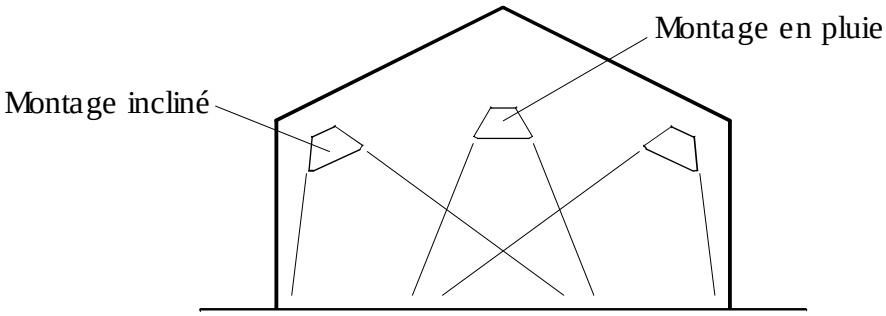


Fig . 8

LIT UP SURFACES	HANGING HEIGHT (m)						
	4	5	6	7	8	9	10
Appliances in "shower position" (not tilted)	5,2 x 5,2	6,5 x 6,5	7,8 x 7,8	9,1 x 9,1	10,5 x 10,5	11,8 x 11,8	13 x 13
Appliances with a 25° tilt	5,2 x 6,4	6,5 x 8	7,8 x 9,6	9,1 x 11,2	10,5 x 12,8	11,8 x 14,4	13 x 16

❹ GAS CONNECTION

In our workshops, the SG undergoes tests relevant to the type of gas used by the client as shown by the identification plate of the unit.

The pipes must be tapped and blown with compressed air prior to their set up.

We recommend extending the gas pipe by a few metres after the intake of the last SG

The connection shall be done at the intake of the electrovalve (1/2'' socket type, cylindrical pitch).

- EQUIPMENT REQUIRED

A ¼ turn isolation valve is necessary for each SG.

A pressure regulating valve must imperatively be used if the effective gas pressure exceeds the nominal pressure required (see technical specifications).

We recommend the fitting of a gas filter so as to protect the various gas intake and burning components.

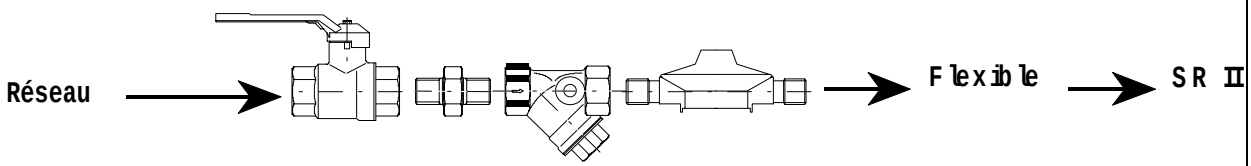
We also recommend that the unit be connected to the mains via an approved flex in order to :

- assist dismantling and fitting operations,
- avoid the propagation of mechanical stress.

The flex shall be tightened manually and completed by a spanner - ¼ turn maximum.

The pressure valve kit may be supplied optionally. The fitting sequence is as follows :

- Isolation valve (Rigid pipe side)
- Filter (Cap turned downwards)
- Pressure equaliser valve (Unit side)



- **OPERATIONS TO BE CARRIED OUT**

- BLEEDING OF THE GAS LINES

Prior to connecting the units, these shall be thoroughly cleaned and bled.

To do so :

a) Check that the isolation taps are turned off.

b) Subject the pipes to a nitrogen pressure equivalent to twice the operating pressure.

c) Open the isolation tap on each unit. Turn it off again after all dirt has been removed.

- CONTROL OF LEAKS

After connecting the SG, the various connections shall be checked for leaks.

This operation shall also be performed after all dismantling/re-fitting operations.

Use a soap solution or other appropriate products.

- GAS PRESSURE CONTROL

It is carried out from the pressure intake located upstream in relation to the electrovalve.

❹ ELECTRICAL CONNECTIONS

The connecting of the unit to the mains shall be done via a protection and general power switch panel, in accordance with standard NF C 15 100 of UTE.

- POWER

The power required is 230 Volts (+10%,-15%) 50 Hz, between phase and neutral, monophase.

Warning, it is **IMPERATIVE :**

- to comply with neutral/phase connection requirements.
- not to supply the phase/neutral terminals by two phases from triphase mains.

In case of neutral impedance, an isolation transformer is compulsory and one of the terminals on the secondary coil, considered as neutral, shall be connected with the earth.

The power of the isolation transformer, located upstream in the control cabinet or control box, shall be calculated on the basis of:

- 30 VA per SG one stage basis
- 60 VA per SG two stage basis

in addition - - 100 VA per control box
- 150 VA per control box

(see page 23)

- NUMBER OF CONDUCTORS

Power supply for each circuit shall include :
- two active conductors and one protection conductor of identical sections for the SG 21, 31, 41, 61, 81,
- three active conductors and one protection conductor of identical sections for the SG 42, 62 and 82.

- COLOUR OF CONDUCTORS

Phase : any colours except white-grey, light blue, green, yellow, and two-coloured green-yellow.

Neutral : light blue.

Protection (earth) : two-coloured green-yellow.

- ELECTRICAL CONNECTION

The SG must be connected to the mains via a connector (supplied with the unit).
The diagram on page 23 must be followed to wire this connector, **using a flex of 0.75 mm².**
The SG can be controlled both manually and automatically.

" Fail-safe " type of manual switch

Switches shall be located in an accessible position.

- Or on a central control panel with respect to each area heated.
- Or in a single location with respect to each SG.

Recommended equipment:
Switch with fuse cartridge PAC20 type to which a differential protection shall be added.

Automatic control = Regulating

On the SG 21, 31, 41, 61, 81 temperature regulation is done on a FAIL-SAFE basis on the electric supply of the unit.

When using the SG 42, 62, 82 on a two-rate basis, a two-rate regulation system must be provided for each area heated.

Recommended equipment :
***Electronic regulation box** index IP 55 AINF approved as meeting the requirements of the Decree of 14 November 1988 and therefore, **meeting the requirements of UTE Standard NF C15-100**.*

Désignation

Box capable of supplying and regulating	*up to 30 SG 21, 31, 41, 61, 81 per area*		*up to 30 SG 42, 62, 82 per area*	
	without clock	*with clock*	*without clock*	*with clock*
1 zone	*R11*	*R11H*	*R21*	*R21H*
2 zones		*R12H*		*R22H*
3 zones		*R13H*		*R23H*
4 zones		*R14H*		*R24H*

Each of these boxes
- allows to control up to 30 SG per area.
- consumes 100 VA

Box R11 :

function : regulation focusing around **1 operating instruction** (same instruction regarding daytime and night-time) to steer **1 area of SG 1 stage basis**

components :
- 1 bipolar general control switch
- 1 1A fuse for control protection
- 1 6A fuse for power protection
- Relays
- 1 single-rate electronic thermostat

Box R21 :

function : regulation focusing around **1 operating instruction** (same instruction regarding daytime and night-time) to steer **1 area of SG 2 stage basis**

components :
- 1 bipolar general control switch
- 1 1A protection fuse for the control
- 1 6A protection fuse for power
- Relays
- 1 2-rate electronic thermostat

Boxes R11H to R14H :

function : regulation focusing around **2 operating instructions** (one for daytime, one for night-time / clock controlled switch) to steer from **1 to 4 areas of SG1 stage basis**

components :
- 1 general control switch
- 1 1A fuse for the protection of control switch
- 1 6A fuse for power area protection
- Relays
- 1 rate 1 electronic thermostat per area
- 1 digital weekly daily timer common to all areas

Boxes R21H to R24H :

function : regulation focusing around **2 operating instructions** (one for daytime and one for night-time / clock controlled switch) to steer from **1 to 4 areas of SG 2 stage basis**

components :
- 1 general control switch
- 1 1A fuse for control protection
- 1 6A fuse per area for power protection
- Relays
- 1 2-rate electronic thermostat per area
- 1 digital weekly daily timer common to all areas

N.B. Cabinets in lacquered metal enclosures with the same protection index as the boxes fitted with timers and meeting the same purpose are available.

Name : Cabinet S1 1 to 4 areas : cf boxes R11H to R14H
cabinet S2 1 to 4 areas : cf boxes R21H to R24H

- The cabinets contain the following in addition to the boxes:
- 1 external general control switch with handle which can be padlocked
- 1 general energising control light for the box
- 1 on/off switch per area
- 1 'on' control light per area
- 1 key "AUTO/MANU" switch 455 for each allowing, on MANU mode, to perform forced operations on daytime instruction and, on AUTO mode, to operate on the two daytime/night instructions with clock controlled switch.

The above-described equipment is supplied pre-wired and with specific instructions; on each unit, a complete terminal box allows easy and swift " in-house " connection.

The following items must be provided with each box:

- 1 ball-probe per area
- 1 2 x1² armoured cable per area to connect the probe to the box.

Besides following instructions when installing regulation systems:

- position the probe at man's height in an area free from drafts and exposed to homogeneous radiation.

- fit the probe to the wall with thermal insulation if this type of setup is selected. The wall emits cold radiation which disrupts correct probing.

- use an armoured connecting cable between the probe and the regulating system of 100m maximum.

- use two-way cableways or keep away from high voltage cables.

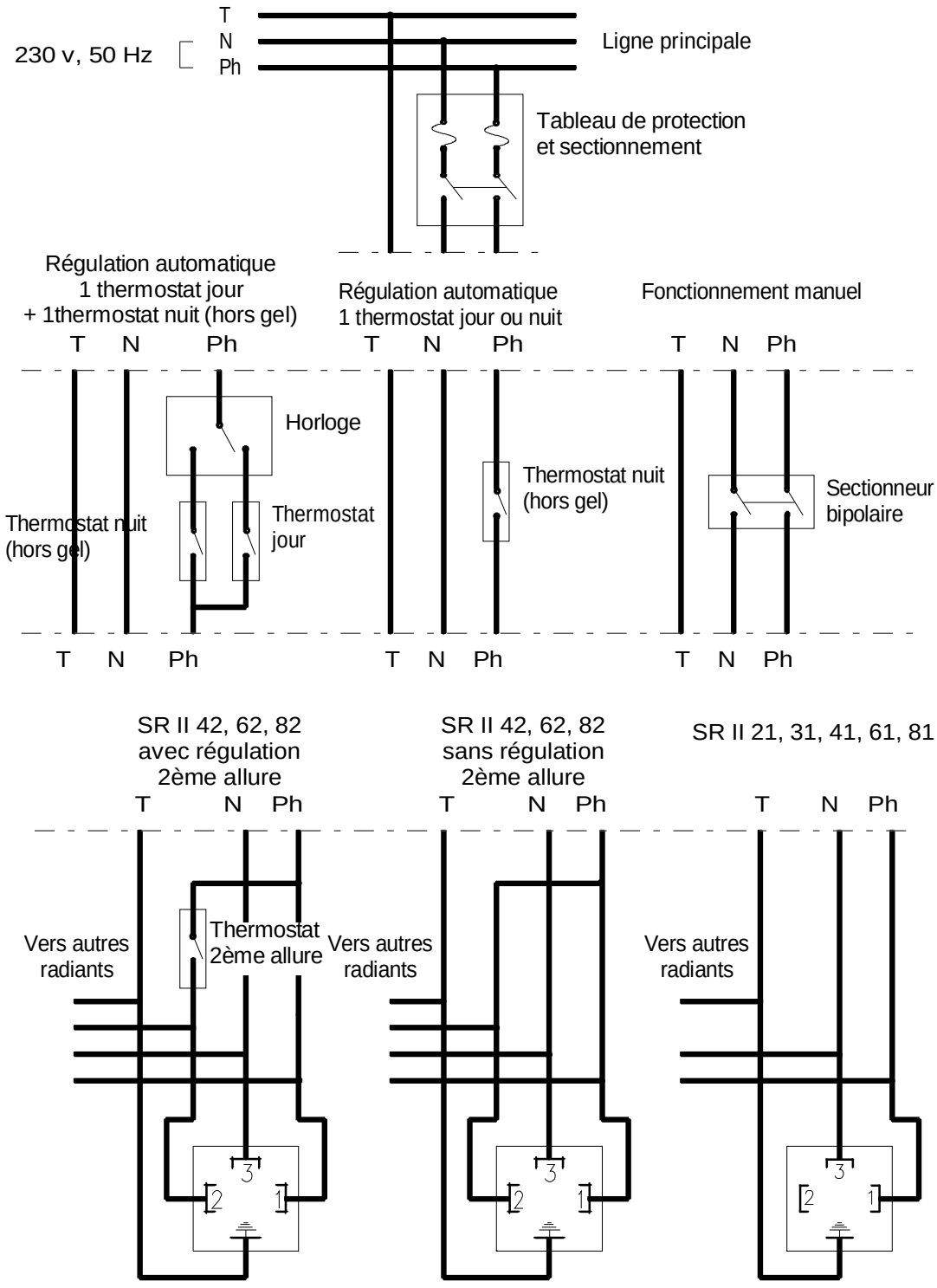
- do not modify the cabling or the location of the components inside the box. Non compliance may result in forfeiting the benefit of standard NF C15-100

NOTE :
1) Taking into account the maximum consumption upon lighting up, a section of 1,5 mm² per conductor will be enough to supply 30 units.

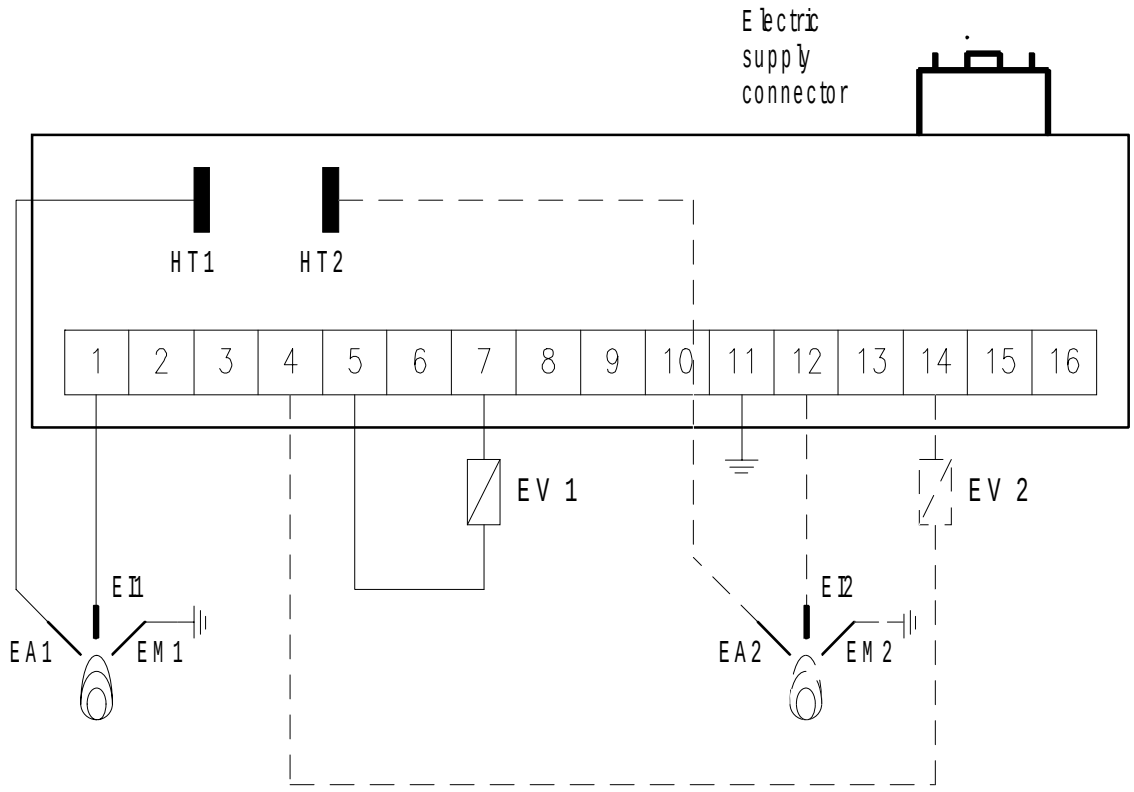
2) Cables shall not go over the unit. If they have to travel alongside it the distance shall never be less than 0.50m.

3) Wirings to the units must carried out with a flex cable of 0,75 mm² with conductors.

- BASIC CONNETION DIAGRAM FOR AN SR II



- WIRING DIAGRAM OF THE VARIOUS FUNCTIONS OF THE CONTROL BOX



HT1: High voltage 1st speed
HT2: High voltage 2nd speed *
EM1: Earth electrode 1st speed
EM2: Earth electrode 2nd speed *
EA1: Light up electrode 1st speed
EA2: Light up electrode 2nd speed *
EI1 : Ionisation electrode 1st speed
EI2 : Ionisation electrode 2nd speed *
EV1: Electrovalve 1st speed
EV2: Electrovalve 2nd speed *

* Pour SRII 42, 62, 82 only

❻ AIR SUPPLY

The table below shows the flow rates required to operate the SG.

MODEL	SG 21	SG 31	SG 41	SG 51	SG 61 SG 61	SG 81 SG 82
Flowrate per device (Nm3/h)	6	10	13	13	20	25

❼ COMBUSTION PRODUCTS, VENTILATION OF THE PREMISES

Combustion products are released into the surrounding tmosphere.

Although the operating of the SG is particularly health-friendly, existing regulations impose rates of air renewal.

- inside industrial premises : please refer to sections R232-1 to R232-4 of French Labour Acts. Air renewal rate must be in excess of 2 m3/h per kW of installed thermal power.

- In E.R.P : Fire protection provisions - Section GZ 21 - impose a rate of renewal of 10 m3/h per kW installed thermal to which must be added air renewal for breathing laid down in Local Health Regulations.

❽ OPERATION

After establishing that the general control valve is open and having ascertained the nature of gas available, one must check :

- that the pipes have been properly bled and sealed

- the gas pressure prior to expansion

- the pressure of the gas supplied before the electrovalve intake after having opened the gas isolation valve.

Check then that the regulation systems allow operations to go ahead.

Energise the unit; the burners must light up after about 12 seconds.

If they fail to ignite, repeat start up operation by turning the power off for a few seconds before turning it on again.

OPERATIONS

❶ EARLY SEASON TESTS

Test firing so as to check that the unit works correctly. It is often difficult to fire a unit when resuming heating. If, after several attempts the unit still fails to light up, call in the contractor.

Operation control

The following test may be carried out :

After lighting up the unit, allow it to operate for a few minutes, turn off the gas then on again after 6 to 8 seconds.
The flame must go out. Try again about 10 seconds after the flame has gone out.

❷ MAINTENANCE

1/1 YEARLY MAINTENANCE VISIT

SOLARONICS radiant panels require yearly inspection and cleaning operations

The visit shall be conducted by an approved contractor or an engineer.

1/2 SEQUENCE OF OPERATIONS

- Inspect radiant surface
- Turn off electric and gas supplies
- Clean gas filter
- Clean the injector, the mixer and the electrodes
- Reassemble and reconnect electric and gas supplies
- Check gas circuit for leaks
- Check light up and flame control device.

1/3 MAINTENANCE OPERATIONS

13/1 Inspection of radiant surface

In case a wafer leaks or shows cracks, replace the burner.

13/2 Electrodes (figure n°9)

A single screw holds the electrode support plate.

Take them down, clean them (use a metal brush), check the gap between light up electrodes, re-install and check position adjustment.

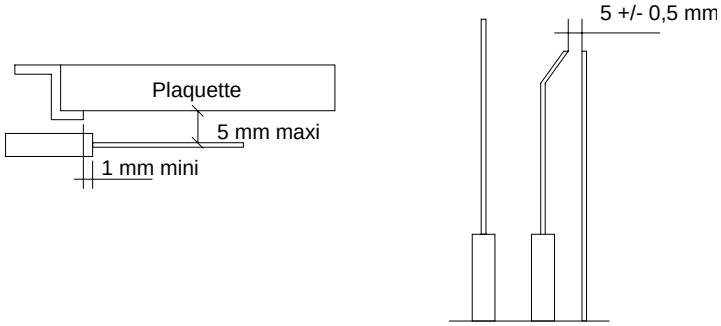


Fig. 9

13/3 Cleaning of the mixer/injector

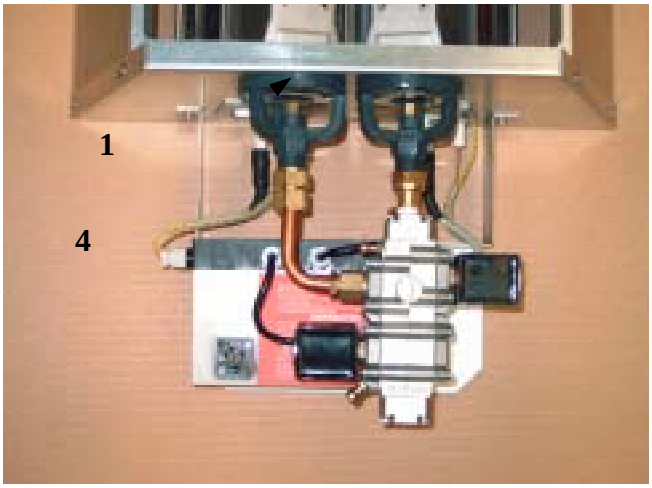
Soak the injector in solvent and blow it dry with compressed air. Do not use metal wire..

Unlock(1)

Remove (2)

Unscrew the Injector (3)

Access the mixture (4)



NOTE :

See that the injector is properly sealed inside its holder.

Do not use sealing products.

❸ MALFUNCTION AND TROUBLESHOOTING

SYMPTOMS		POSSIBLE CAUSES	REMEDY
Lighting and flame control device	BURNER		
The light-up cycle proceeds normally with HV sparks between light-up electrode and earth	Does not light up upon the first attempt	- Gas sealing tap shut - Gas lines inadequately bled	- Turn tap on - Bled the gas line
	Does not light up after several attempts	- Filter - Injector clogged or partially clogged - Ill-suited injector - Gap between light-up electrode is too wide - Electrovalve jammed in 'off' position	- Clean the filter - Clean the injector - Replace injector (table p12) - Adjust gap (Figure n°9) - Replace the electrovalve
	The burner lights up but goes out within 4 seconds upon light-up	- Ill-suited injector - Ionisation electrode badly positioned in relation to burner or connected to earth - Poor earthing on safety box - The safety box is defective (ionisation control is too slack) - Phase-neutral inversion - Neutral impedance	- Replace the injector (table p12) - Reposition the electrode (figure n°9) - Clean point contact - Replace the control box - properly (figure p22) - fit in an isolation transformer

SYMPTOMS		POSSIBLE CAUSES	REMEDY
Lighting and flame control device	BURNER		
No high tension sparks between The light-up cycle p light-up electrode and earth		- No electric infeed	-Check arrival of sector
		-Melted fuse wire	- Replace the fuse wire when cause is found
		-Inversion neutral phase	-Connect correctly(scheme p22)
		-Light-up electrode to earth	- Seperate them from the earth
		-Light-up electrode widen	- Adjust the separation (scheme 9)
		-Oil the light-up electrode	-Clean with a solvent
		-Electrode ceramic cracked (leaking of sparks or burner or box)-	-Change electrode
		-Poor connection to H.T.wire or poor earth	-Redo the connections correctly
		-Light-up box defect	-Change this

❹ SPARE PARTS

DESCRIPTION	code no.
Valve coil	9421364
1 stage control and safety box (SG 21, 31 and 41)	9424131
1 stage control and safety box (SG 61 and 81)	9424132
2 stage control and safety box (SG 42, 62 and 82)	9424141
Complete 1 stage valve for SG21, 31 and 41	9421371
Complete 1 stage valve for SG 61 and 81	9421367
Complete 2 stage valve for SG 42, 62 and 82	9421369
Electrode assembly	7223044
Burner kit for SG 21 and 42	7220300
Burner kit for SG 31, 61 and 62	7220302
Burner kit for SG 41, 81 and 82	7220304
Burner quiet kit for SG 21 and 42	7220306
Burner quiet kit for SG 31,61 and 62	7220307
Burner quiet kit for SG 41,81 and 82	7220308


AMBIRAD