

Condensing warm air generator

**X-XH-XE-XEH**



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TECHNICAL INSTRUCTIONS – CONDENSING WARM AIR GENERATOR – NT10001D-GB

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## 1. Introduction

In this manual, the warnings are used to point to specific information. We want to ensure the user safety, to avoid any problem and to ensure proper operation of the appliance.



### WARNING

Indicates a potential hazard which can cause bodily injuries and/or material damage



Indicates important information.



Indicates a reference to other instructions or other pages of these instructions.



Before installation and commissioning the device, read carefully all enclosed instructions.



Power on



Heating



Ventilation only



Release of the thermal protection of the fan



Release of the LIMIT safety thermostat – manual resetting



Burner off



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## 1.1. General

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### 1.1.1. Manufacturer's liability

---

Our products are manufactured in compliance with various applicable European directives requirements. They are thus supplied with EC markings and all necessary documents. With our commitment to quality products, we constantly seek to improve them. We therefore reserve the right at any time to modify the characteristics stated in this document.

Our liability as a manufacturer does not apply in the following cases:

- Failure to follow operating instructions for the appliance.
- Failure to maintain or insufficiently maintain the appliance.
- Failure to follow installation instructions for the appliance.

### 1.1.2. Installer's responsibility

---

The installer is responsible for installation and first commissioning of the device. The installer must observe the following:

- Read and follow the instructions given in the instruction manuals provided with the device.
- Carry out installation in accordance with the applicable legislation and standards.
- Carry out the first commissioning and carry out all necessary controls.
- Explain the installation to the user.
- Inform the user that he cannot make changes in the appliance's design and to the installation by himself. The slightest modification (change, removal...) of security components or parts automatically results in the appliance's CE marking becoming invalid.
- Alert the user about the obligation to control and maintain the device.
- Hand all documents to the user

### 1.1.3. User liability

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To ensure correct operation of the appliance, the user must observe the following:

- Read and follow the instructions given in the instructions manuals provided with the device.
- Call in a qualified technician to carry out the installation and perform the initial commissioning



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- Obtain explanations about the installation by Installer
- Carry out checks and required maintenance.
- Keep all documents in good condition and near the appliance

## 1.2. Certifications

Appliance	Hot air generator
Directive	2009/142/CEE « Gas appliances »
NOx classification	5 (NF EN 1020)
Guide line	II2Er3P
Chimney connection	Chimney: B23
	Coaxial flue : C13, C33, C53

## 2. Safety instructions and recommendations

### 2.1. Safety instructions



#### WARNING

The hot air generator is a live device and must be grounded during installation

- It is not allowed to obstruct and/or reduce the space reserved for the room or the appliance vents
- Do not obstruct smoke exhaust or fresh air suction ducts,
- Do not make any change in the settings made by the qualified technician
- Do not place or hang anything on the device,
- Any work on the appliance is prohibited before it is unplugging it from the mains and cutting the gas supply.
- Do not change the used gas type, settings of the appliances, security systems or control settings, as this could lead to dangerous situations.
- Call a qualified technician in the case of gas replacement, change of gas pressure or modification of power supply
- If the appliance do not operates for a long period, disconnect the power supply of the appliance

When commissioning, it is advisable to use the service of a professional technician

Generally, all repair or maintenance works must be carried out exclusively by authorized and qualified personal.



Subscribing to a maintenance agreement is strongly recommended



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## 2.2. Recommendations

The condensing hot air generators are dedicated to the heating of industrial and tertiary premises

These generators differ from traditional generators by the optimization of their performances:

- Combustion efficiency
- Modulation of heating capacity

The highest attention will thus have to be brought during their installation and during their setting-up.



We recommend entrusting their commissioning to Solaronics Chauffage.

The maintenance of the devices must be made every year, so as to guarantee their availability, to maintain their high performance level and also their safety of functioning.



### WARNING

Only qualified professionals are authorized to modify and install the appliance.

- This information forms an integral part of the appliance and must always be kept always with the appliance, even in the event of transfer to another owner or user
- Do not remove or cover the labels and material safety data plates fixed to the devices. Labels and material safety data plates must be readable throughout the device life.
- Install the device in a sufficiently ventilated room,
- Please contact us for any other application other than those described in this document

DON'Ts :

- Do not install hot air generators:
  - In environments with explosive risks,
  - Premises containing vapours of chlorinated products
  - In extremely wet premises (electrical shock hazard).

## 3. Description

The warm air heater is suitable for the following uses:

- Heating of the air, conveyed by its fan unit through the external walls of its combustion chamber and heat exchanger
- Ventilation only



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To be used in heating mode, the appliance must be connected to the mains, to a gas network and to a well suited system of evacuation of the products of combustion and condensation.

To be used in ventilation mode, just connect it to the mains.

This warm air heater is to be used to heat the ambient air.

The device must not be used for other purposes and in particular for an average outlet air temperature over 80°C, during normal operation

### 3.1. Generator connected to air ducts

---

The hot air generator is a device designed to the heating of the industrial or tertiary premises. The hot air distribution can be made by direct blowing or by a duct network.

The system of air distribution represents the terminal and visible part of a heating system. The air distribution conditions the success or not of the installation because it influences the perception of the occupant on its comfort and its sensation of warmth.



#### IMPORTANT

**It is up to the project management to make the sizing of the network of ducts for air recycling and air distribution including accessories (dampers, attenuators, filters), to calculate exactly the static pressure which must be delivered by the device and to specify it at order, to Solaronics Chauffage.**

Solaronics Chauffage proposes a wide range of available static pressures, up to 800 Pa, at the exit of devices.

If the pressure delivered by the generator is lower than the need for the installation, the air flow will be lower than its rated value. This will cause or an overheating of the installation or a high number of on/off cycles, and a discomfort. On the contrary if the pressure delivered by the generator is superior to the need for the installation, the air flow will be higher to its rated value, what will cause an overheating of the motor of the ventilator, and also a discomfort



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### 3.2. Main parts

---

Remark: The air generator is supplied with its “Riello” premix burner of RX type, complete with burner tube, modulating controller and an air probe: all this constitutes an integrated thermal unit. The burner is already factory-assembly, wired to the generator and thermostats set, settled and tried.



#### **WARNING**

It is not possible to replace this burner by another model.



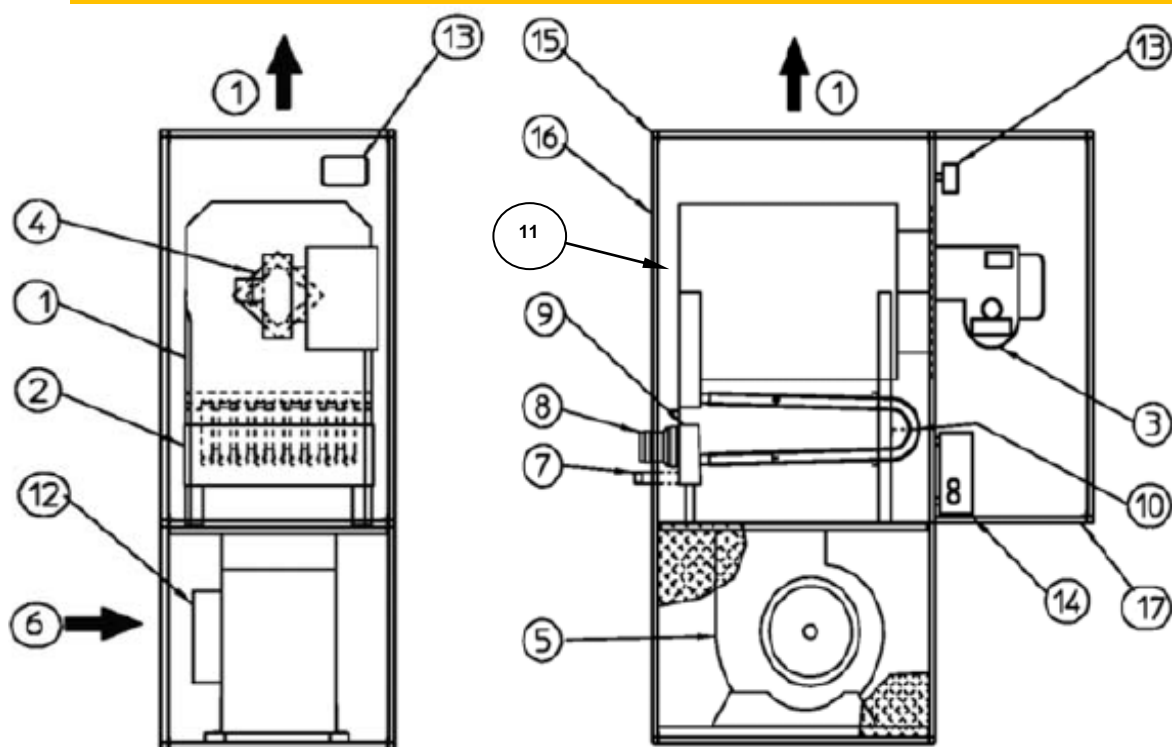
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### 3.2.1. Hot air generators – X50 to X65 type – single phase motor with direct coupling



REP	Designation	REP	Designation
1	Air outlet	10	Heat exchanger
2	Trapdoor of the smoke box	11	Combustion chamber
3	Burner + air intake	12	Fan motor
4	Anchor plaque burner	13	Thermostat - Fan-Limit-Limit2
5	Centrifugal fan	14	Electrical control panel
6	Recycling air grid (inlet)	15	Frame of aluminium section
7	Connection of condensate drain device	16	Insulated sandwich panels
8	Smoke connection	17 (*)	Cabinet protection for the burner and electrical components
9	Smoke box (back)		

(\*) XE and XEH type only



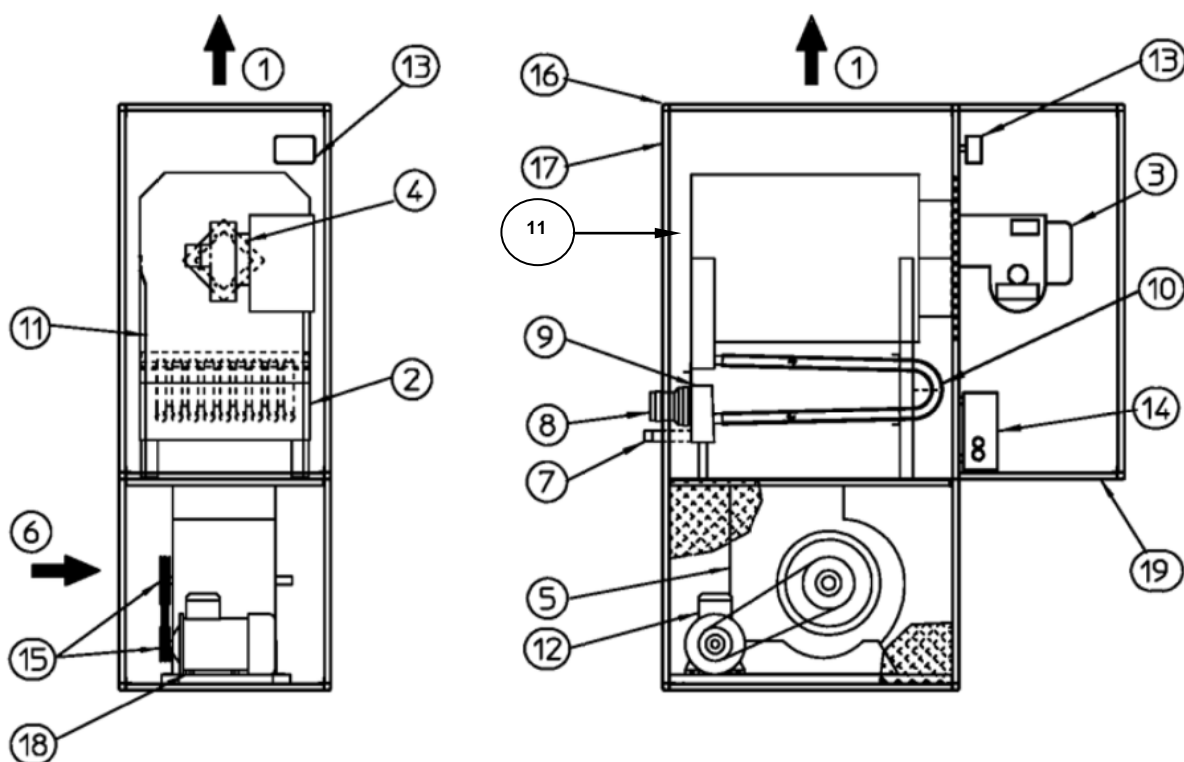
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### 3.2.2. Hot air generators -X80 to X200 type-3 phases-fan and transmission motor



REP	Designation	REP	Designation
1	Air outlet	11	Combustion chamber
2	Trapdoor of the smoke box	12	Fan motor
3	Burner + air intake	13	Thermostat - Fan-Limit-Limit2
4	Anchor plaque burner	14	Electrical control panel
5	Centrifugal fan	15	Driving pulleys and belts
6	Recycling air grid (inlet)	16	Frame of aluminium section
7	Connection of condensate drain device	17	Insulated sandwich panels
8	Smoke connection	18	Tensioning device – Motor slider
9	Smoke box (back)	19(*)	Cabinet protection for the burner and electrical components
10	Heat exchanger		

(\*) XE and XEH type only



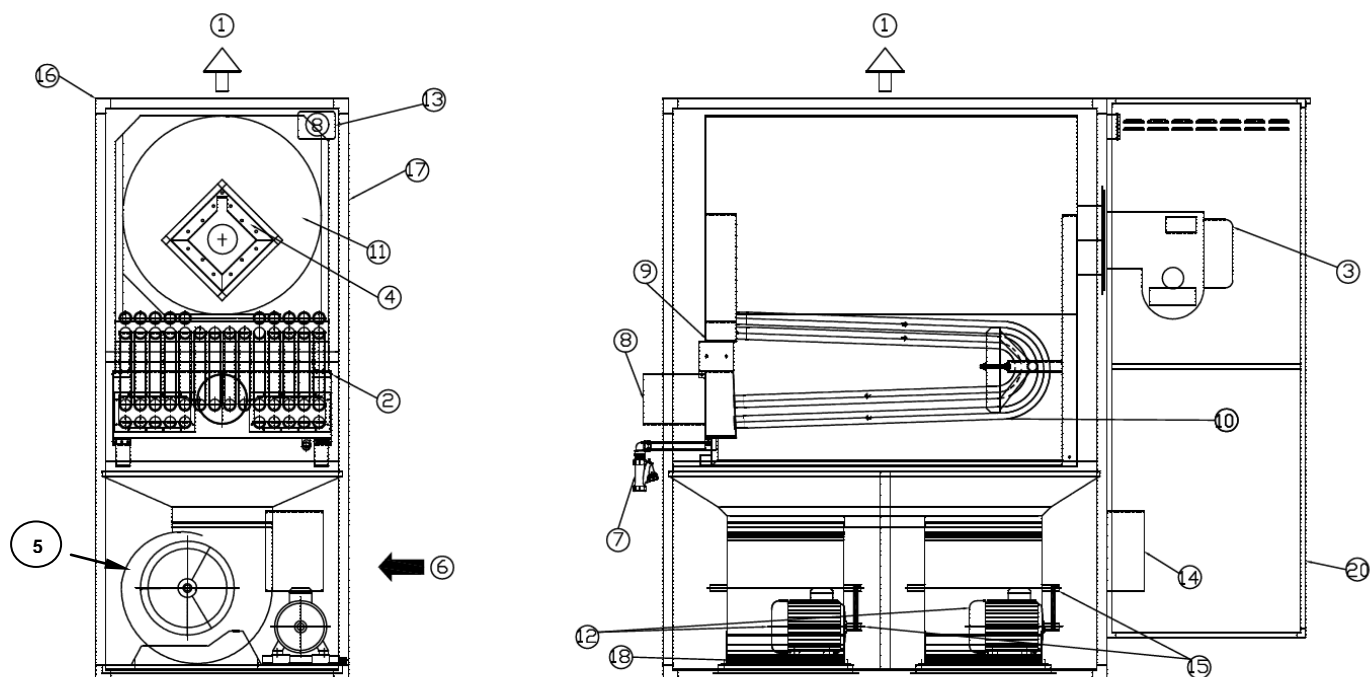
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### 3.2.3. Hot air generators X250-X300 –3 phases – 2 fans and transmission motors



REP	Designation	REP	Designation
1	Air outlet	11	Combustion chamber
2	Trapdoor of the smoke box	12	Fan motor
3	Burner + air intake	13	Thermostat - Fan-Limit-Limit2
4	Anchor plaque burner	14	Electrical control panel
5	Centrifugal fan	15	Driving pulleys and belts
6	Recycling air grid (inlet)	16	Frame of aluminium section
7	Connection of condensate drain device	17	Insulated sandwich panels
8	Smoke connection	18	Tensioning device – Motor slider
9	Smoke box (back)	20(*)	Cabinet protection for the burner and electrical components
10	Heat exchanger		

(\*) XE and XEH type only



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### 3.3. Accessories (options)

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*Vertical hot air generator - X50-X65 type*



*Vertical hot air generator - X80 to X200 type*



*Outdoor hot air generator - XE80 to XE200 type*



*Outdoor horizontal hot air generator XEH type*



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### 3.4. Description of operation

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#### 3.4.1. Ventilation mode

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On the electrical panel, the master switch must be placed on the position -1- and the switch on – VENTILATION -. The generator works then permanently as a simple ventilator, whatever is the temperature. The burner does not work.

#### 3.4.2. Heating mode

---

On the electrical panel, the master switch must be placed on the position -1- and the switch on – HEATING -. As soon as the contact of the regulation of temperature is closed, the burner begins its cycle of auto-diagnosis and pre-sweeping.

Then combustion starts. After approximately 5 minutes, when the heat exchanger is enough hot, the thermostat FAN starts automatically fan.

The power of the burner modulates according to the control of ambient temperature.

When the contact of the regulation of temperature switches off, the fan continues to work to cool the heat exchanger until the triggering of the FAN thermostat, to avoid blowing cold air.

When the air temperature at the outlet of the generator exceeds the value settled in the thermostat LIMIT (settled in factory at 80°C) the power of the burner is set at least, up to the automatic engaging of this thermostat.

When the air temperature at the outlet of the generator exceeds the value settled in the LIMIT2 thermostat (settled in factory at 100°C), the burner stops.

In case of release of the LIMIT2 thermostat, to reset the burner it is necessary to let at first cool the air and then operate as described in the section “TRITHERMOSTAT” of these instructions.



#### **WARNING**

The release of LIMIT2 indicates a defect. It is necessary to clear it. In case of impossibility, contact our AFTER SALES SERVICE or a qualified technician

#### 3.4.3. Stop mode

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By moving the switch on the position – BURNER STOP -, the burner stops immediately, while fan continues to work until the end of its cooling cycle (FAN thermostat).

To stop definitively all the system, place the master switch on - O-.



#### **WARNING**

Before switching off the main switch, check that the hot air generator is enough cooled, not to damage the device.



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## WARNING

Never switch off the unit from the master switch, but always from the switch or thermostat. In defect the heat stays in the heat exchanger and it risks deforming this one.

### 3.4.4. Thermostats

A set of 3 thermostats, placed on the heat exchanger, assures the following functions of control and safety:

#### 3.4.4.1. FAN Thermostat

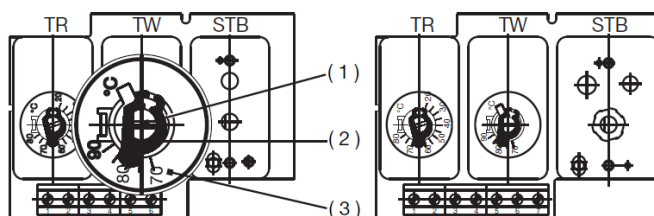
**FAN (TR):** thermostat of the ventilation fan, normally opened, to switch on/off automatically the ventilation during HEATING mode.

To set the thermostat FAN remove the lid of the case and adjust the potentiometer by means of a screwdriver. Replace and screw the lid of the case.

The adjustment must be set to **40°C** (X50 to X65 models) and to **30°C** (X80 to X300 models).

Higher values delay the starting up of the fan and thus increase the consumption of gas, with the risk of damaging the device. The set temperature of release of the FAN thermostat, for the stop of the fan in phase of cooling, indicated by the first needle to the left, is fixed approximately 14°C lower than the temperature of closure.

It is possible to shunt the FAN thermostat for the applications where a permanent blowing is required (for example the networks of textile ducts): See « Description of the wiring of the tri-thermostats » section



- (1) Setpoint spindle
- (2) Setpoint marker
- (3) Internal scale

- Remove housing cover and adjust setpoint spindle using a screwdriver.
- Put housing cover back on and tighten up the screws.

- (1) Potentiomètre
- (2) Repère de consigne
- (3) Echelle interne

- Retirer le couvercle du boîtier et régler le potentiomètre à l'aide du tournevis.
- Remplacer et visser le couvercle du boîtier.

#### 3.4.4.2. LIMIT Thermostat

- **LIMIT (TW):** maximum temperature of the thermostat of the burner, normally closed, with automatic reset: it adjusts automatically the heating capacity of burner at the minimum, to avoid that the air temperature blown by the generator exceeds the limit of safety. Its setting is fixed at **70°C**. This value can be increase up to 80°C maximum, if needed. The ventilation fan is not



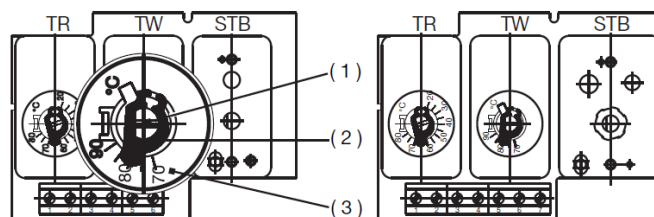
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stopped by the LIMIT thermostat, to cool the heat exchanger. After the cooling of the blown air, the LIMIT automatically resets the burner at the heating capacity calculated by the regulation



- (1) Setpoint spindle  
(2) Setpoint marker  
(3) Internal scale

■ Remove housing cover and adjust setpoint spindle using a screwdriver.  
■ Put housing cover back on and tighten up the screws.

- (1) Potentiomètre  
(2) Repère de consigne  
(3) Echelle interne

■ Retirer le couvercle du boîtier et régler le potentiomètre à l'aide du tournevis.  
■ Replacer et visser le couvercle du boîtier.

### 3.4.4.3. LIMIT2 Thermostat

- **LIMIT2** (STB): safety thermostat of the burner, normally closed, with manual-reset and positive safety: it stops automatically the burner, to avoid that the air temperature blown by the generator exceeds the limit of safety planned by the reference standard. Its setting is fixed at **100°C** and must not be modified, not to overheat excessively the generator. The ventilation fan is not stopped by the thermostat LIMIT2, to cool the heat exchanger.

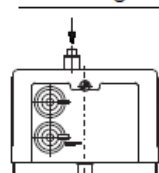
To reset the LIMIT2: wait at first that the air temperature at the outlet cools down, until the stop of the fan, and press on the green button



#### WARNING

The release of LIMIT2 indicates a defect. It is necessary to clear it. In case of impossibility, contact our AFTER SALES SERVICE or a qualified technician.

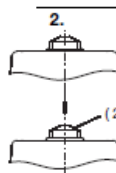
#### Resetting the STB



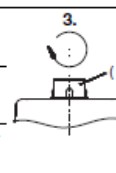
(B)  
WTHc-2280-/  
WTHc-2240/

1. Hutmutter (1) abschrauben.  
(1) Unscrew cap nut (1).  
Dévisser l'écrou borgne (1).

#### Déverrouillage de STB



2. Wiedereinschaltknopf (2) drücken, bis der Mikroschalter entriegelt ist.  
Press reset knob (2) until the microswitch is reset.  
Appuyer sur le bouton de réarmement (2) jusqu'à ce que le microrupteur soit déverrouillé.



3. Hutmutter (1) aufschrauben.  
(1) Screw cap nut (1) back on.  
Visser l'écrou borgne (1).



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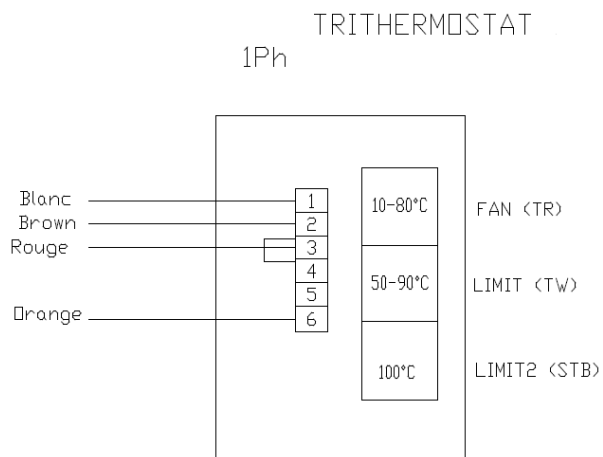
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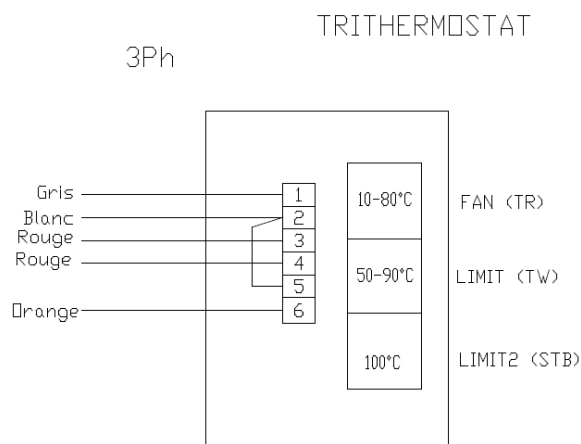
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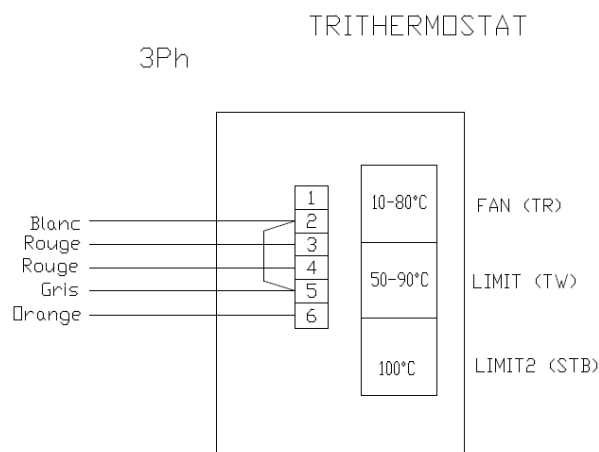
### 3.4.4.4. Description of the wiring of the tri-thermostats



*Standard hot air generators - X50 to X65 type (single phase)*



*Standard hot air generators – X80 to X300 type (3-phase)*



*Permanent ventilation (generator – 3-phase type)*



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TECHNICAL INSTRUCTIONS – CONDENSING WARM AIR GENERATOR – NT10001D-GB

### 3.4.5. "CAREL" Controller of « CLIMA » type, for the control of the room temperature (read its instructions)

The hot air generator is equipped in standard with a "Carel" controller of "Clima" type. It assures the following functions:

- Room thermostat
- Time clock
- Modulation of the heating capacity of the burner:

Room temperature < Set temperature  $-2^{\circ}\text{C}$ :

Heating capacity of the burner set to 100%

Set temperature  $-2^{\circ}\text{C}$  < Room temperature < Set temperature:

Heating capacity is proportionally modulated in the difference with the set temperature

Room temperature > Set temperature:

The burner stops.

The burner restarts when the Room temperature < Set temperature  $-0.5^{\circ}\text{C}$ .



The "Clima" controller is supplied by a tension of 24V delivered by the electrical control panel of the generator. The "Clima" controller delivers a 0-10V signal to the safety control box of the burner, to modulate its flame and thus the heating capacity.

The cable between the "Clima" controller and the burner has to be a 1.5 mm<sup>2</sup> armoured cable



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## 4. Technical characteristics

THERMAL DATA	Type	X50	X65	X80	X100	X150	X175	X200	X250	X300
Rated heat input Qn	kW	61.1	76	98.5	122	179	203	238	270	313
Rated heating capacity Pn	kW	59.8	73.0	96.3	116.6	178.6	201.8	234.2	269	310
Thermal efficiency at rated heating capacity Pn	%	97.9	96.1	97.8	95.6	99.8	99.4	98.4	99.3	98,7
Heat input at 50% of the rated heat input	kW	30.55	38	49.25	61	89.5	101.5	119	162	187.8
Heating capacity at 50% of the rated heat input	kW	31.8	39.0	51.6	62.1	93.8	106.0	123.6	167.3	191.3
Thermal efficiency at 50% of the rated heat input	%	104.2	102.6	104.9	101.8	104.8	104.5	103.9	103.3	101.8
Minimum heat input Qmin	kW	22	22	31	31	53	53	53	88	102
Heating capacity at Qmin	kW	23.3	23.3	33.4	33.4	56.65	56.65	56.65	94.51	109
Thermal efficiency at the minimum heat input Qmin	%	106	106	107.8	107.8	106.9	106.9	106.9	107.4	106.9
Back pressure in the combustion chamber, with G20 at Qn	mbar	4.3	7.5	3,4	5.1	3.9	5.2	6.2	4	4,8
Condensate produced when the room temperature is 20°C	l/h	2.15	2.15	4.06	4.06	4.5	4.5	4.5	5.52	5.2
AERAULIC DATA										
Air flow rate at 18°C	m3/h	4700	6100	7560	9200	13000	15800	18000	20800	24000
Available static pressure	Pa	150	150	150	150	200	200	200	200	200
DELTA T AIR at Pn	°C	37.4	35.1	37.2	37.2	40.4	37.6	38.3	37.1	37
MAX GAS CONSOMMATION at 15°C - 1013 mbar										
NATURAL GAS G20 at 20 mbar	m3/h	6.47	8.4	10.42	12.91	18.94	21.48	25.19	28.57	33.12
NATURAL GAS G25 at 25 mbar	m3/h	7.52	9.4	12.1	15.0	22.0	25.0	29.3	33.24	38.53
PROPANE G31 at 37 mbar	kg/h	4.75	5.90	7.65	9.48	13.1	15.77	18.49	20.98	24.32
CO2 at Qn with G20 (tolerance ± 0,2) %	%	8.7	8.9	8.9	8.9	8.8	8.7	8.7	8.3	8.3
CO2 at Qn with G31 (tolerance ± 0,2) %	%	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10	10
NOx	CL	Class 5								
ELECTRICAL DATA FOR A STANDARD UNIT										
Fan motor electric capacity	kW x n.	0.736	0.736	1.5	2.2	3	4	5.5	3 x 2	4 x 2
Fan motor supply voltage	V-Ph-Hz	230 V - 1 - 50		400 V – 3 + N - 50						
Fan motor current	A	7.7	7.7	3.6	5.1	7	9.2	12	7 x 2	9,2 x 2
Fan motor current ( 3x230V 50 Hz)	A	NA		6.2	9.3	12	15	20	12 x 2	15 x 2
Sound pressure level (at 5m)	dB(A)	70	72	72	73	71	73	74	74	75
Index of protection for “XE” “XEH” type	IP	X5D	X5D	X5D	X5D	X5D	X5D	X5D	X5D	X5D
ELECTRICAL DATA FOR A UNIT WITH AN AVAILABLE STATIC PRESSURE OF 300 Pa										
Fan motor electric capacity	kW	1.1	1.5	2.2	3	4	5.5	7.5	3 x 2	4 x 2
Fan motor supply voltage	V-Ph-Hz	400 V - 3+N - 50								
Fan motor current	A	2.9	3.6	5.1	7	9.2	12	17.8	7 x 2	9,2 x 2
Fan motor current ( 3x230V 50 Hz)	A	4.8	6.2	9.3	12	15	20	31	12 x 2	15 x 2
Diameter of flue connection/combustion air intake	mm	100/100		130/130		150/150			200/200	
GAS CATEGORY	FR	II2Er3P								
Chimney connection	Type	B23 – C13 – C33 – C53								
Burner references	RIELLO	RX80 S/PV	RX80 S/PV	RX100 S/PV	RX120 S/PV	RX250 S/PV	RX250 S/PV	RX250 S/PV	RX350 S/P	RX350 S/P
Gas connection	”	¾”	¾”	¾”	¾”	1”	1”	1”	1”½	1”½
Inlet gas pressure	mbar	G20 :20 mbar / G25 :25 mbar / G31 :37 mbar								



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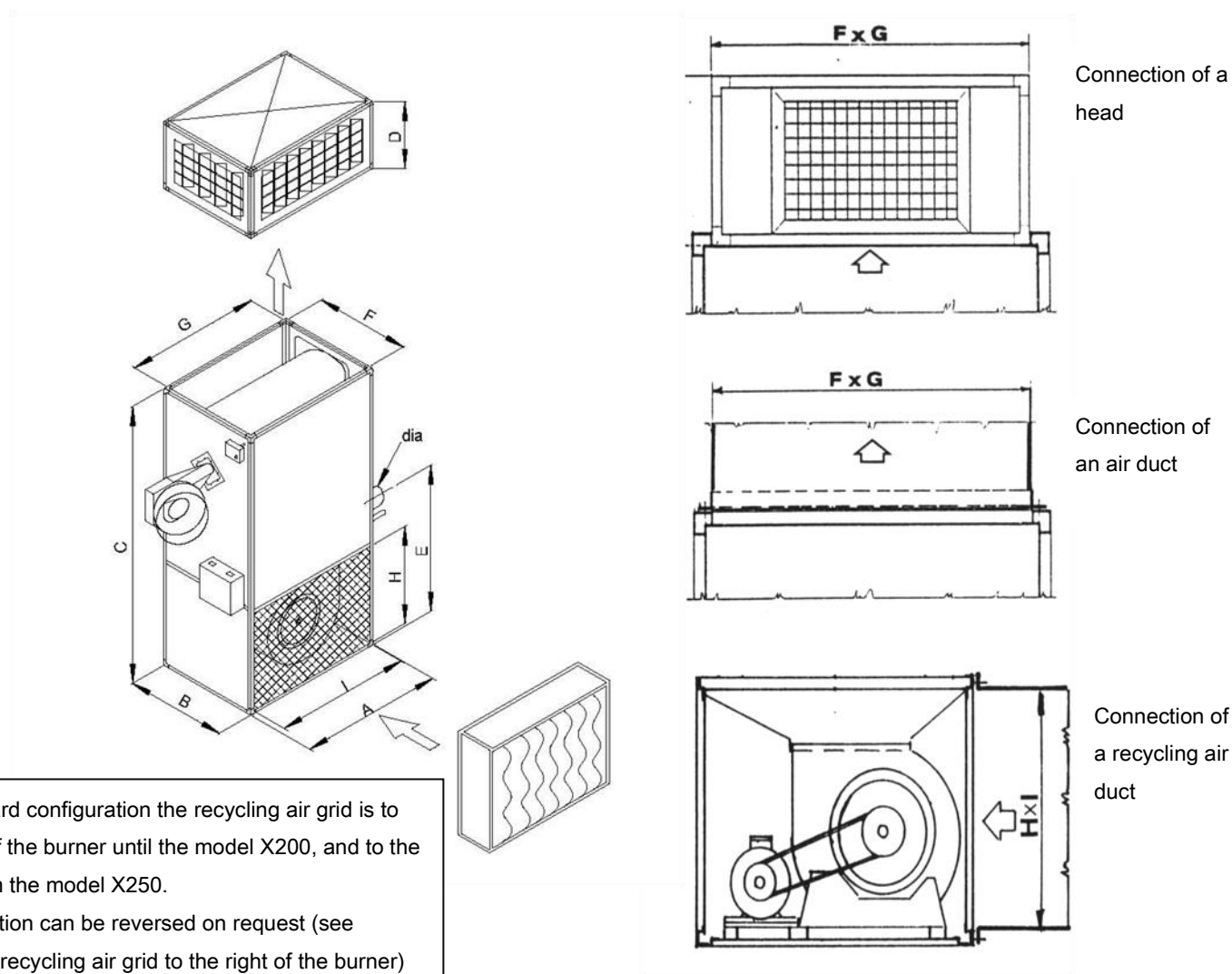
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## 5. Dimensions

### 5.1. Hot air generator – X type



AIR GENERATOR				Head Height	Smoke connection Height	Air outlet connection		Air inlet connection		Frame profile	Chimney Diam.	Weight of generator (1)		Weight of the head
Type	Length	Width	Height			F	G	H	I			Net	Gross	
	A	B	C	D	E	F	G	H	I	L	Ø	kg	kg	kg
X50	870	636	1750	305	830	596	850	630	830	20	100	165	175	17
X65	870	636	1750	305	830	596	850	630	830	20	100	170	180	17
X80	1020	750	1950	405	935	670	940	690	940	40	130	270	282	27
X100	1020	750	1950	405	935	670	940	690	940	40	130	275	287	27
X150	1440	1020	2340	405	1070	940	1360	760	1360	40	150	435	450	42
X175	1440	1020	2340	405	1070	940	1360	760	1360	40	150	440	455	42
X200	1440	1020	2340	405	1070	940	1360	760	1360	40	150	445	460	42
X250	1790	1020	2340	405	1130	940	1710	760	1710	40	200	570	590	50
X300	1790	1020	2340	405	1130	940	1710	760	1710	40	200	580	600	50

(1) fitted with a burner and a gas ramp



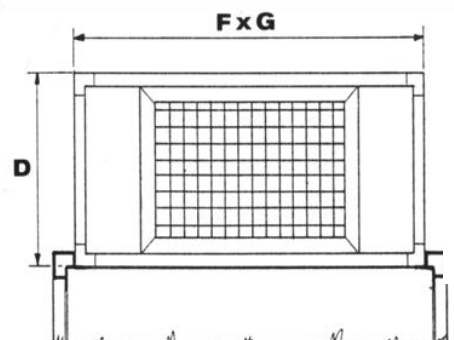
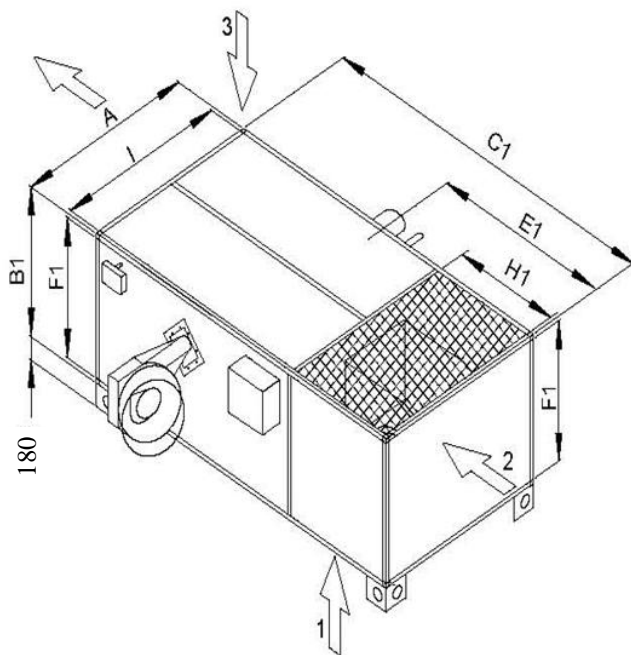
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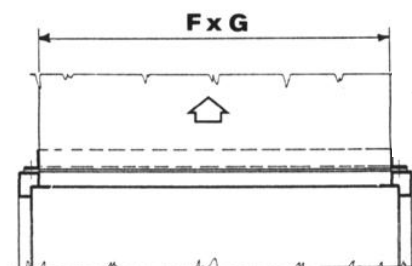
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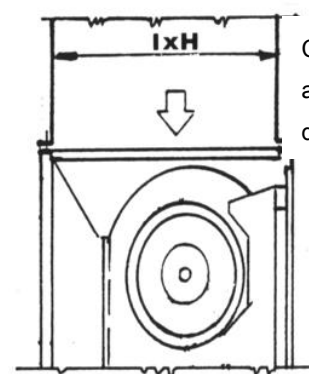
## 5.2. Hot air generator – XH type



Connection of a head



Connection to an air duct



Connection to a recycling air duct

The head is the same as the one of the "X" type.

The air recycling grid is placed in the choice on the position 1, 2 or 3

At the order of the generator, indicate the orientation of the generator (right or left). The drawing represents a generator in left position (blowing of the air).

AIR GENERATOR				Head Height	Smoke connection Height	Air outlet connection		Air inlet connection		Frame profile	Chimney Diam.	Weight of the generator (1)		Weight of the head
Type	Length	Height	Width									net	gross	
	A	B1	C1	D	E1	F1	I	H1	I	L	Ø	kg	kg	kg
XH50	870	636	1750	305	860	596	830	630	830	20	100	165	175	17
XH65	870	636	1750	305	860	596	830	630	830	20	100	170	180	17
XH80	1020	850*	2200	405	1185	770*	940	690	940	40	130	285	297	27
XH100	1020	850*	2200	405	1185	770*	940	690	940	40	130	290	302	27
XH150	1440	1020	2340	405	1070	940	1360	760	1360	40	150	435	450	42
XH175	1440	1020	2340	405	1070	940	1360	760	1360	40	150	440	455	42
XH200	1440	1020	2340	405	1070	940	1360	760	1360	40	150	445	460	42
XH250	1790	1020	2660	405	1450	940	1710	1020	1710	40	200	600	620	50
XH300	1790	1020	2660	405	1450	940	1710	1020	1710	40	200	610	630	50

(1) fitted with a burner and a gas ramp



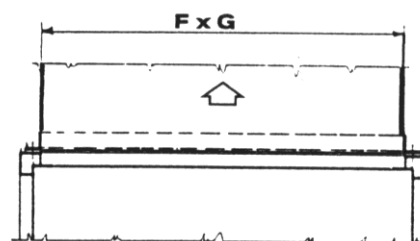
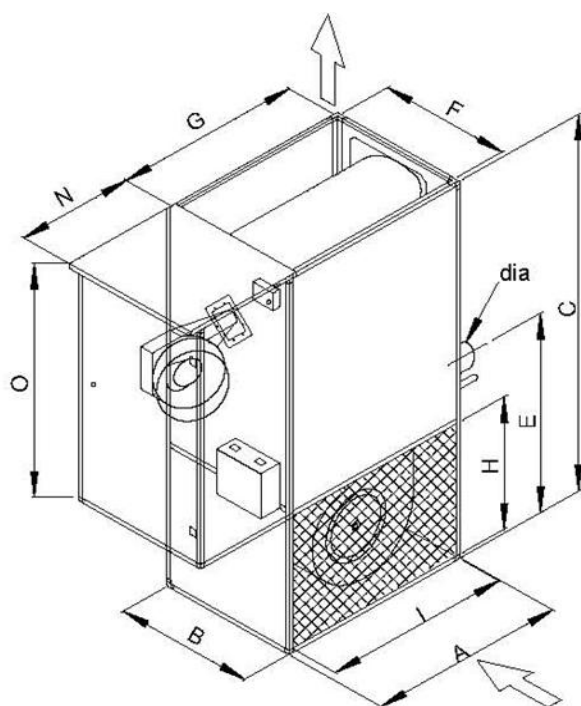
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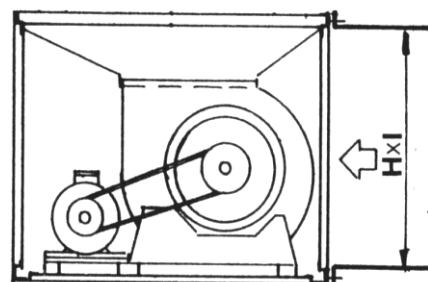
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### 5.3. Hot air generator – XE type



Connection to  
an air duct



Connection to  
a recycling air  
duct

In standard configuration the recycling air grid is to the left of the burner until the model X200, and to the right from the model X250. This position can be reversed on request (see drawing: recycling air grid to the right of the burner)

AIR GENERATOR				Smoke connection Height	Air outlet connection		Air inlet connection		Burner box		Chimney Diam.	Weight of the generator (1)	
MODEL E	Length A	Height B	Width C						Depth N	Height O		Net kg	gross kg
<b>XE50</b>	870	636	1750	860	596	830	630	830	400	1100	100	187	197
<b>XE65</b>	870	636	1750	860	596	830	630	830	400	1100	100	192	202
<b>XE80</b>	1020	750	1950	935	670	940	690	940	400	1220	130	295	307
<b>XE100</b>	1020	750	1950	935	670	940	690	940	400	1220	130	300	312
<b>XE150</b>	1440	1020	2340	1070	940	1360	760	1360	650	1540	150	479	494
<b>XE175</b>	1440	1020	2340	1070	940	1360	760	1360	650	1540	150	484	499
<b>XE200</b>	1440	1020	2340	1070	940	1360	760	1360	650	1540	150	489	504
<b>XE250</b>	1790	1020	2340	1130	940	1710	760	1710	800	2170	200	615	635
<b>XE300</b>	1790	1020	2340	1130	940	1710	760	1710	800	2170	200	625	645

(1) fitted with a burner and a gas ramp



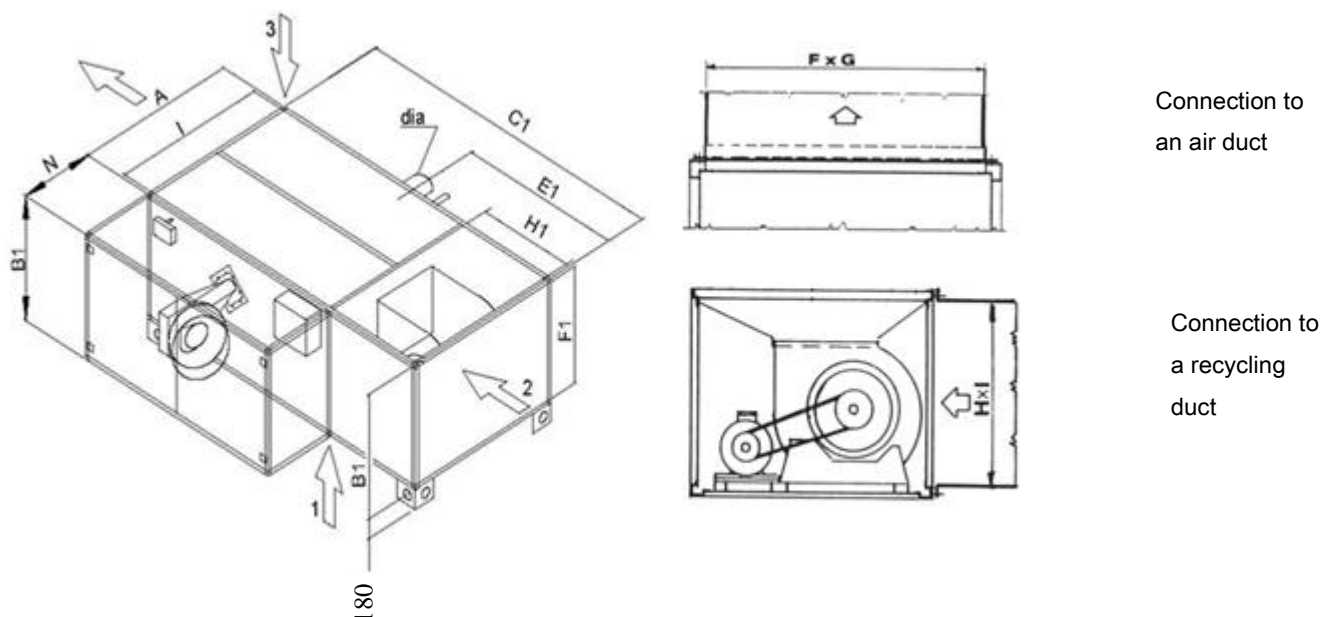
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## 5.4. Hot air generator – XEH type



The head is the same as the one on the "X" type.  
 The air recycling grid is placed in the choice on the position 1, 2 or 3  
 At the order of the generator, indicate the orientation of the generator (right or left). The drawing represents a generator in left position (blowing of the air).

AIR GENERATOR				Smoke connection Height	Air outlet connection		Air inlet connection		Burner box		Chimney Diam.	Weight of the generator (1)	
Type	Length A	Height B1	Width C1		F1	I	H1	I	Depth N	Width O		Net kg	Gross kg
XEH50	870	636	1750	860	596	830	630	830	400	1100	100	187	197
XEH65	870	636	1750	860	596	830	630	830	400	1100	100	192	202
XEH80	1020	850	2200	1185	770	940	690	940	400	1470	130	308	320
XEH100	1020	850	2200	1185	770	940	690	940	400	1470	130	313	325
XEH150	1440	1020	2340	1070	940	1360	760	1360	650	1540	150	479	494
XEH175	1440	1020	2340	1070	940	1360	760	1360	650	1540	150	484	499
XEH200	1440	1020	2340	1070	940	1360	760	1360	650	1540	150	489	504
XEH250	1790	1020	2660	1450	940	1710	1020	1710	800	2170	200	645	670
XEH300	1790	1020	2660	1450	940	1710	1020	1710	800	2170	200	655	680

(1) fitted with a burner and a gas ramp



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## 5.5. Head (in option)

The air is blown through grids located on 3 faces of the head

Type	P (mm)	Q (mm)	D (mm)	R (mm)	T (mm)	S (mm)	Number of grids 1)	Air throw (m) 2)	
								max	min
<b>X50</b>	825	591	305	300	300	200	1+1+1	16	16
<b>X65</b>	825	591	305	300	300	200	1+1+1	16	16
<b>X80</b>	935	665	405	550	550	300	1+1+1	34	34
<b>X100</b>	935	665	405	550	550	300	1+1+1	38	38
<b>X150</b>	1355	935	405	750	750	300	1+1+1	55	55
<b>X175</b>	1355	935	405	750	750	300	1+1+1	60	60
<b>X200</b>	1355	935	405	750	750	300	1+1+1	63	63
<b>X250</b>	1355	935	405	750	750	300	1+2+1	74	60
<b>X300</b>	1355	935	405	750	750	300	1+2+1	80	62

1) Short side (Q) + Large side (P) + Short side (Q).  
2) The air throw is given for a final speed of the air of 0.15 m/sec., provided that the fins of THE grids are not tilted. For a tilt of 30 °, multiply the value of the air throw, indicated in the above tab, by 0.65



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## 5.6. Filter casing (in option)

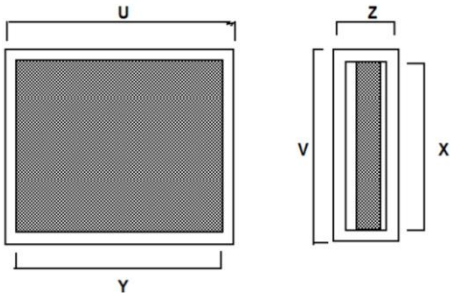
Type	U	V	Z	Y	X	Folded filters (1)	Pressure drop [Pa] (2)
<b>X50</b>	870	620	60	780	580	1 x 810 x 640 x 48	30
<b>X65</b>	870	620	60	780	580	1 x 810 x 640 x 48	50
<b>X80</b>	980	680	60	880	630	1 x 910 x 695 x 48	40
<b>X100</b>	980	680	60	880	630	1 x 910 x 695 x 48	58
<b>X150</b>	1440	840	200	1400	800	4 x 625 x 400 x 98	50
<b>X175</b>	1440	840	200	1400	800	4 x 625 x 400 x 98	66
<b>X200</b>	1440	840	200	1400	800	4 x 625 x 400 x 98	95
<b>X250</b>	1790	840	200	1750	800	2 x 625 x 400 x 98 4 x 500 x 400 x 98	71
<b>X300</b>	1790	840	200	1750	800	2 x 625 x 400 x 98 4 x 500 x 400 x 98	83

(1) Efficiency according to ASHRAE52/76 dust weight standards: 87%

(2) Pressure drops given for a new filter.

Caution! For blocked filters, this pressure drop shall be increased by 50%, at least.

The pressure drop must be subtracted from the pressure available on the generator



## 6. Installation of the appliance



The installation of gas appliances must be made by qualified and authorized personnel. It depends on the characteristics of premises, in volume, in location and in equipment of exhaust ducts or devices of ventilation which these premises have or can be provided.

### Packaging :

The warm air heater is delivered on a pallet, and is protected by a pluriball film. The air inlet plenum, if installed, is packaged together with heater or separately, according to the models

### Reception – Storage

It is essential to check the state of the delivery (even if the packaging is intact) and its conformity with regard to the order.

Proceed to the unpacking of the device by using adequate protection equipments. Check the state of the devices. In case of doubt, do not use it, but contact the manufacturer or its representatives. In case of damage or of missing parts, you have to put the observations on the receipt of the carrier in the most precise possible way, (Remark: the mention "subject to



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unpacking" has no legal value), then to confirm these reserves by registered letter under 48 hours to the carrier. It is of the responsibility of the buyer to check the delivered goods. No appeal will be possible if this procedure is not respected.

Store the goods in clean and dry premises, shielded from the shocks, the vibrations, the temperature differences and in an atmosphere of hygrometry lower than 90 %.

## 6.1. General rules

---

Hot air generators can be installed:

- either directly in the premises to be heated
- either in a boiler room/technical room
- or outside

However, this facility is subject to the national security. If in doubt, check with safety and inspection bodies

### Ventilation:

Premises receiving gas appliances should be provided with permanent ventilation in accordance with the rules in force in the country of installation

### Temperature:

The limit temperatures of functioning of the burner and the electric equipments are:

Minimum: 0°C – maximum: 60°C.

For the "XE" and "XEH" versions installed outdoor, Solaronics Chauffage supplies, in option, optional a kit taken up in the burner box. This kit enables to maintain the temperature inside the cabin of the burner in 0°C, when the outside temperature falls below this value.

### Gas connection:

Before installing the appliance, it is necessary to check that the local distribution conditions (gas type, pressure) are compatible with settings of the device to be installed



### **WARNING**

Do not turn upside down the generator. It could damage it.



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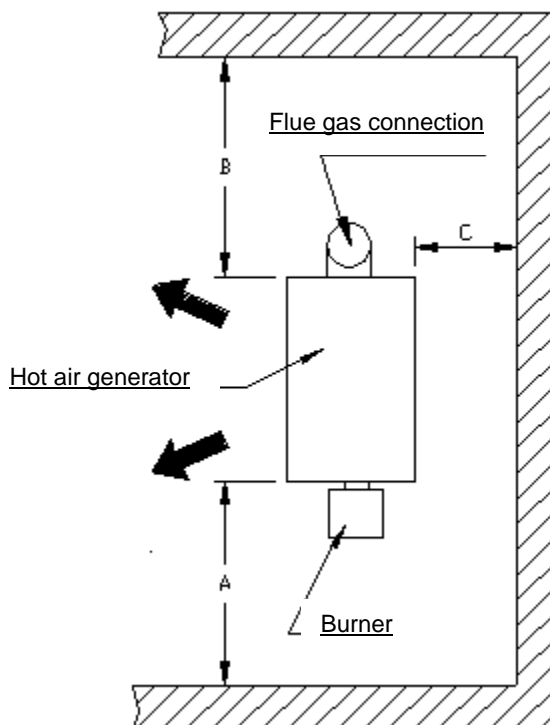
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## WARNING

Minimum distances required for maintenance and safety devices:

Type	A [mm]	B (1) [mm]	C [mm]
X 50	1000	700	300
X 65	1000	700	300
X 80	1000	820	300
X 100	1000	820	300
X 150	1300	820	600
X 175	1300	820	600
X 200	1300	820	600
X 250	1300	820	600
X 300	1300	820	600
(1) Check this dimension so as to make possible the dismantling of the smoke connection			



Furthermore it is necessary to leave an appropriate clearance around the generator, free of combustible materials, on a distance calculated according to the prescriptions and existing standards

## 6.2. Location

The generator must be installed according to the prescriptions, the laws, the standards and the regulation in force which the installer has to know.

- Try to sweep with the air jet the whole zone to be warmed.
- In the case of an important infiltration of outside air, compensate it with a hot airflow
- Avoid managing air jets against obstacles such as pillars or stored boxes
- If the premises are equipped with exhaust fans, install the generator on the opposite wall and to install an air inlet to renew the extracted air.

### 6.2.1. Loading - unloading

The transport, the loading and the unloading must be made with the greatest care.

During these operations of loading and unloading, the center of gravity of the device has to stay in the center, by avoiding the dangerous slopes.



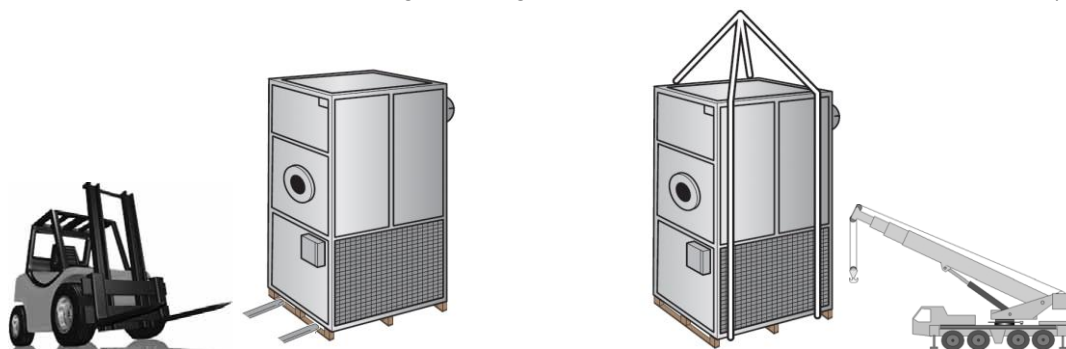
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Raise the device with a power lift truck, or by means of a crane, of a sufficient capacity with taking into account of the safety factor (check the gross weight of the device in the tab and its dimensions).



In any case, be careful not to damage the unit by using suitable protections.

### 6.2.2. Connecting air devices

---

It is recommended to put sealing devices or joint putty for the connecting of the generator to:

- An air mixing box
- A head
- An air distribution network

### 6.3. Connecting flue systems

---

The combustion products exhaust systems described these instructions are those commonly used in the market. It is up to the installer or the building owners to ensure that the chosen smoke system comply with the local installation rules

Connection of the flue gas exhaust ducts/combustion air ducts can be achieved:

- If an adequate ventilation of the premises is ensured: with combustion air suction in the premise where the heater is installed ("B" type).
- With combustion air suction from outside ("C" type).

**i** Smoke ducts, terminals and accessories used must compulsorily be approved and made of "316" stainless steel .



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The use of liquid-tight ducts implies a perfect coupling seal, then to facilitate installation it is essential to use a lubricant, non-aggressive for the gasket, e.g. soapy water.



### 6.3.1. Exhaust ducts connection B type

Combustion circuit not sealed from the atmosphere.

The combustion air is drawn directly from the premise and the smoke exhaust occurs outward through a roof-top vertical duct, or horizontally, through the wall.

Connection of exhaust duct must not pass through other premise than the one in which it is installed.

The flow of air renewal, for combustion, is the following one:

	X50	X65	X80	X100	X150	X175	X200	X250	X300
Min. flow of air renewal, <i>for each unit installed</i> (m <sup>3</sup> /h)	107	133	172	214	313	355	417	473	548



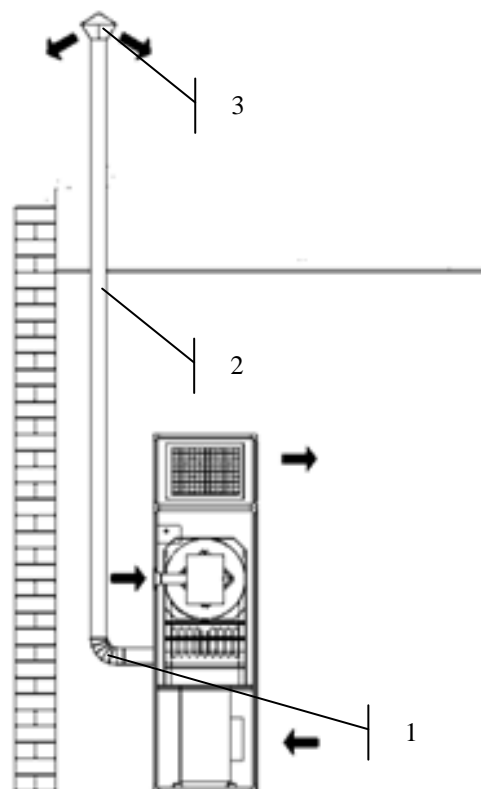
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## B23



Standard assembly:

- (1) Elbow
- (2) Single pipe
- (3) Rain-barrier cover

The total pressure drop of the chimneys, included the terminals, shall not exceed 50 Pa.



### WARNING

Junctions must be sealed and rigid. Check the presence of seals.



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### 6.3.2. Exhaust ducts connection C type

Combustion circuit sealed from the atmosphere.

The combustion air intake and the flue exhaust connections are made in vertical or horizontal position to outside of the premise. Connection of exhaust duct must not pass through other premise than the one in which the appliance is installed

C33 vertical	C13 horizontal	C53
Standard assembly: <ul style="list-style-type: none"> <li>• (1) 2 x Elbow</li> <li>• (2) 2 x Single pipe</li> <li>• (3) 2 x Rain-barrier cover</li> </ul>	Standard assembly: <ul style="list-style-type: none"> <li>• (1) 2 x Single pipe</li> </ul>	Standard assembly: <ul style="list-style-type: none"> <li>• (1) Single pipe</li> <li>• (2) Elbow</li> <li>• (3) Single pipe</li> <li>• (4) Rain-barrier cover</li> </ul>

The total pressure drops of the chimneys, included the terminals, shall not exceed 50 Pa.



#### WARNING

Junctions must be sealed and rigid. Check the presence of seals.

Flue ducts mounted horizontally must be installed with a slight slope, 2° to the heating appliance.



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### 6.3.3. Table of pressure drops

Type		X50	X65	X80	X100	X150	X175	X200	X250	X300
Available pressure (Pa) for smoke release and combustion air intake		50	50	50	50	50	50	50	50	50
PIPES		Pressure drop (Pa/m)								
Diam. 100 mm - Length 1 m	Smoke release	2.7	4	6.5	9.8	-	-	-	-	-
	Combustion air intake	2	3	4.8	7.2	-	-	-	-	-
Diam. 130 mm - Length 1 m	Smoke release	0.8	1.1	1.8	2.7	5.4	6.2	9.1	-	-
	Combustion air intake	0.6	0.8	1.3	1.9	4.0	7.5	6.7	-	-
Diam. 150 mm - Length 1 m	Smoke release	0.4	0.6	1.0	1.5	2.9	3.0	4.9	-	-
	Combustion air intake	0.3	0.4	0.7	1.0	1.9	2.0	3.3	-	-
Diam. 200 mm - Length 1 m	Smoke release	-	-	-	-	-	-	-	2.5	3.4
	Combustion air intake	-	-	-	-	-	-	-	1.7	2.3
PARTS		Pressure drop (Pa/part)								
Bend 90° R/D=1.5 - Diam. 100 mm	Smoke release	5.4	8.0	13.0	19.6	-	-	-	-	-
	Combustion air intake	4.0	6.0	9.6	14.4	-	-	-	-	-
Bend 90° R/D=1.5 - Diam. 130 mm	Smoke release	1.5	2.2	3.6	5.4	10.8	12.4	18.2	-	-
	Combustion air intake	1.1	1.6	2.6	3.9	8.0	15.0	13.4	-	-
Bend 90° R/D=1.5 - Diam. 150 mm	Smoke release	-	1.2	2.0	3.0	5.8	6.0	9.8	-	-
	Combustion air intake	-	0.8	1.3	1.9	3.9	4.0	6.6	-	-
Bend 90° R/D=1.5 - Diam. 200 mm	Smoke release	-	-	-	-	-	-	-	5.0	6.8
	Combustion air intake	-	-	-	-	-	-	-	3.4	4.6
Terminal - Diam. 100 mm	Smoke release	2.7	4.0	6.5	9.8	-	-	-	-	-
	Combustion air intake	2.0	3.0	4.8	7.2	-	-	-	-	-
Terminal - Diam. 130 mm	Smoke release	0.8	1.1	1.8	2.7	5.4	6.2	9.1	-	-
	Combustion air intake	0.6	0.8	1.3	1.9	4.0	7.5	6.7	-	-
Terminal - Diam. 150 mm	Smoke release	-	0.6	1.0	1.5	2.9	3.0	4.9	-	-
	Combustion air intake	-	0.4	0.7	1.0	1.9	2.0	3.3	-	-
Terminal - Diam. 200 mm	Smoke release	-	-	-	-	-	-	-	2.5	3.4
	Combustion air intake	-	-	-	-	-	-	-	1.9	2.5

### 6.4. Evacuation of condensate

The pipes of the heat exchanger are tilted to allow the free flow of the condensation towards the back smoke box and the pipe of evacuation.

The heating appliance is supplied with a siphon for condensate evacuating, siphon delivered separately, to mount during installation.



**WARNING**



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Draining must be carried out with acid water resistant materials.

Never use copper or galvanized pipes.

- For condensation water flow system, use PCP or stainless steel pipes of diameter at least equal 20 mm. Check that the pipe is always positioned under the siphon top point.
- Check tightness of condensation water evacuation pipes.
- Before using the appliance, fill the siphon with water through the filling cap. This prevents the release of smoke into the water during the commissioning.

#### Frost protection

The condensate draining, including the siphon must be protected from frost. It is best to keep the draining ducts inside a frost protected premise. If it is outside of the building, the part of the pipe behind the siphon must be open to avoid any eventual ice from closing the spill. Take all necessary measures to prevent such a problem; it may cause irreversible damage to the heater.

#### Neutralization of condensation water

The water generated by the combustion of the natural gas has a pH value of 3.5 to 3.8. Some regulations on pollutant discharges require treatment of these condensates. In this case, prepare a condensate neutralization kit (not supplied).

## **6.5. Gas connection**

### **6.5.1. General**

Firstly, you should check that the device you have received is consistent with the distributed gas type. To do this, you should refer to the information given on the heater rating plate.

The gas supply must match the heater output and be equipped with all safety and control devices provided by standards.

A detailed study will be carried out on duct diameters depending on the type, flow of gas and the ducts length. It should be checked that ducts pressure drop does not exceed 5% of the supply pressure. The gas connections must be performed in accordance with indoor installations requirements regardless the type of gas, by qualified personnel having the applicable approvals

Before commissioning, ensure that the gas line is tight and clean all residues caused by the work.



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A manual isolation valve must be settled near the generator so as to be able to isolate the burner of gas supply line for the operations of maintenance and repairs



#### **WARNING**

Before opening the gas network, check the valve tightness to the appliance heating unit

When the generator is settled outside, check that all the parts of the gas line (shut off valve, filter, reducing valve) are designed for negative temperatures and protect them against the bad weather.

### **6.5.2. Accessories**

According to the pressure, to the heating capacity of the installation, Solaronics Chauffage proposes a range of accessories of line:

- Isolation valve
- Filters
- Reducing valves



1



2



3

(1) Shut off valve - (2) Gas filter - (3) Reducing valve

Examples of gas connection



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## 7. Electrical connection

### 7.1. Connection

The electric installation must be realized by respecting the standards and the national and local regulations. All the internal electric connections of the generator are made in factory. The connecting of to the general supply and to the remote control or the indoor thermostat must be realized by the installer, following electrical drawings; refer to "electrical drawings" section.

- Check the electrical installation:
  - For standard X50 and X65 type: 230V - 50Hz, non floating neutral (ie 0V between the ground and the neutral)
  - Other types: 3 x 400V 50Hz + N, non floating neutral (ie 0V between the ground and the neutral)

If necessary a transformer of isolation must be settled.

- Isolate totally the generator from the main electric line, by means of an all-pole switch (race of opening of contacts min. 3 mm), settled upstream to the generator, according to the standards and adapted to the total electric power of the generator.
- Connect the power supply and the ground to the terminal board located inside the electrical box of the generator.
- Connect the controller to terminal board located inside the electrical box of the generator:
  - 24V supply (for "Carel Clima "controller)
  - Standard switch of the burner
  - 0-10V cable of the burner
- If necessary connect the fire dampers to terminal board located inside the electrical box of the generator.



#### **WARNING**

Modify on no account the cabling of the LIMIT and LIMIT2 safety thermostats.



#### **WARNING**

In case an additional clock settled, do not connect it in series with the power supply but with the indoor thermostat. In defect the release of the clock switches off the generator and the residual heat can damage the device.



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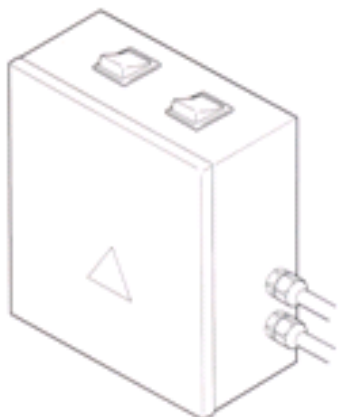
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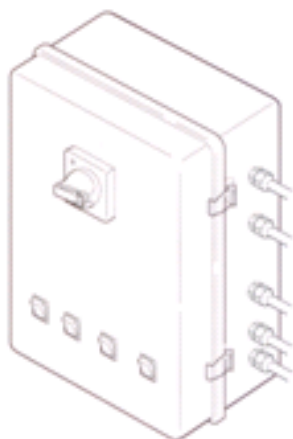
### 7.1.1. Wiring diagrams

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Diagrams below are in force in the case of standard generators. When the unit includes contains options, the wiring diagram is delivered with the unit. In this case keep it carefully.



Electrical boxes of generators of X50-X65 standard types



Electrical boxes of generators X80-X300 standard types



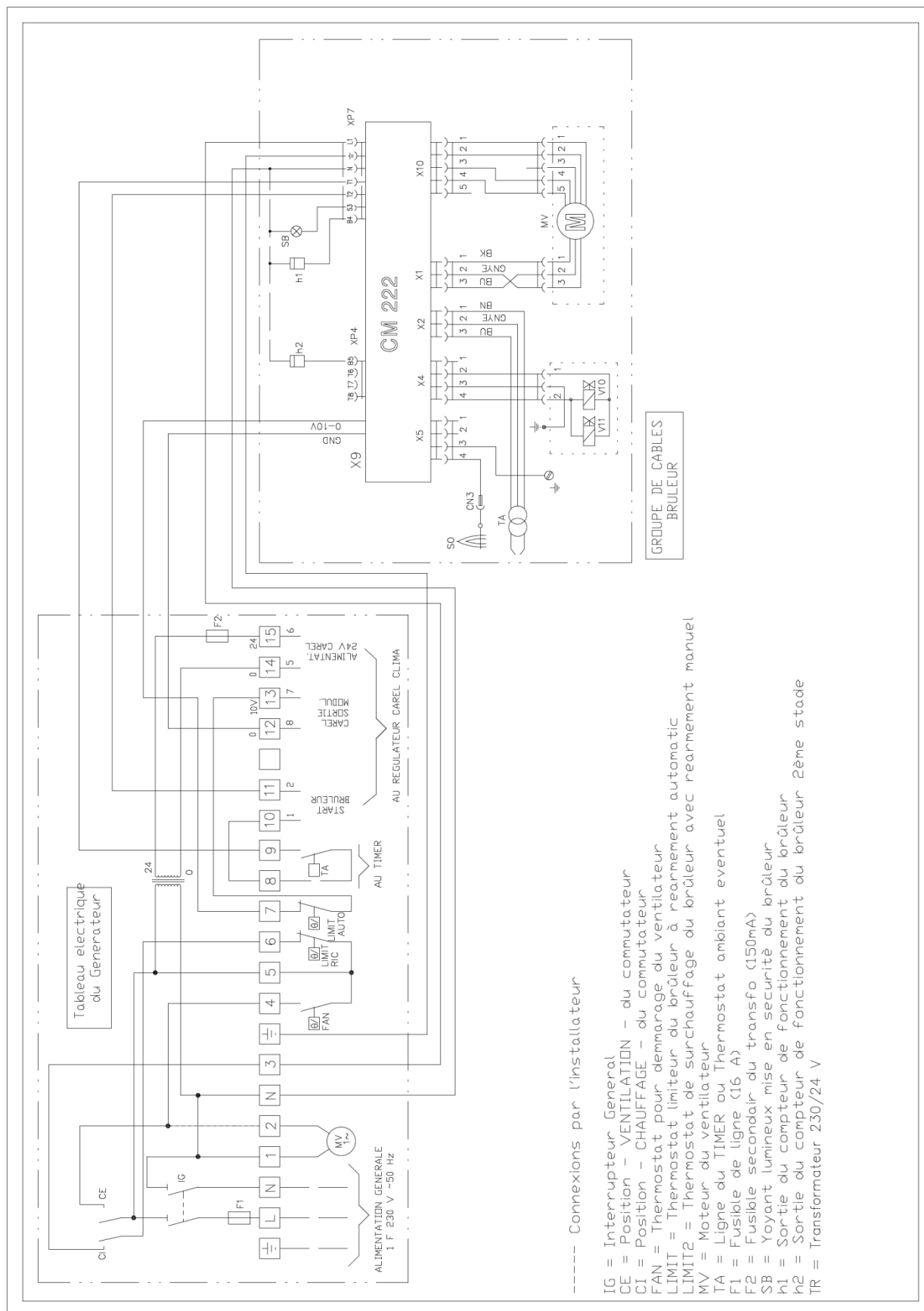
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### 7.1.1.1. X50 and X65 models – Standard pressure (Supply: 1 x 230V)



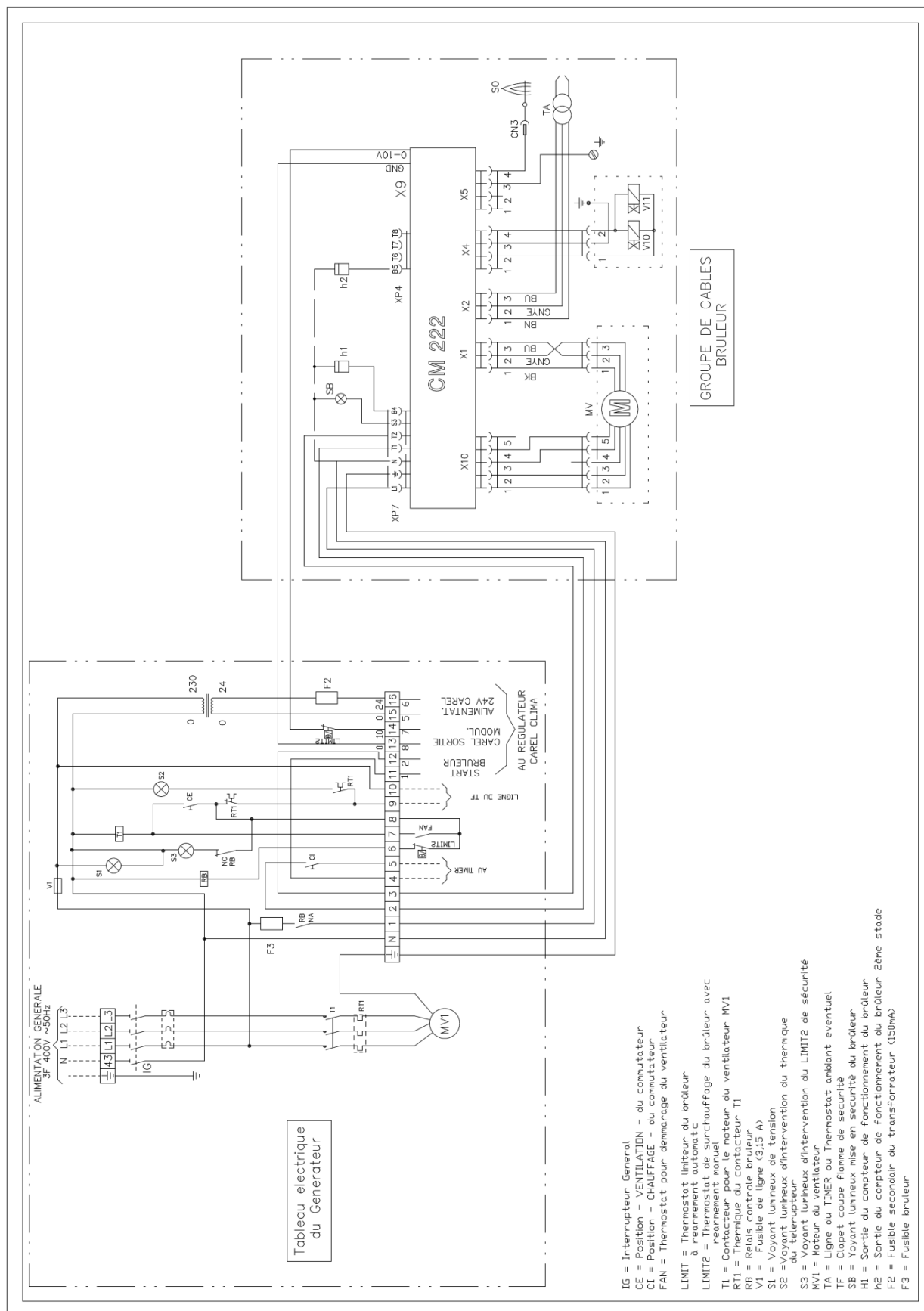
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### 7.1.1.2. X80 to X200 standard models



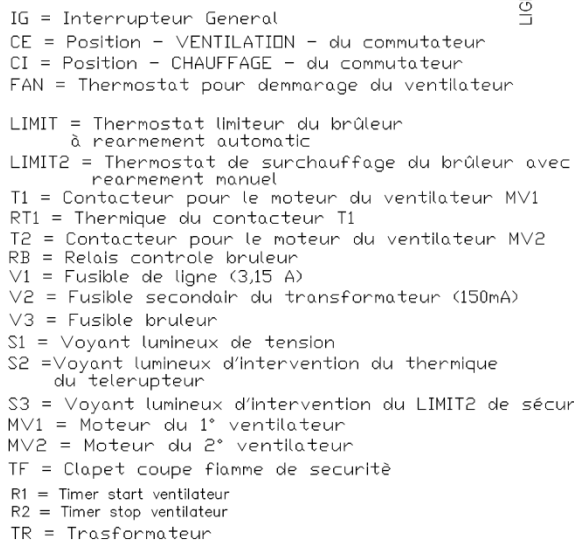
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### 7.1.1.3. X250 to X300 standard models



En cas de court-circuit ou de surcharge électrique, l'interrupteur général (IG) se disjoints.

Pour réarmer, tourner le bouton dans le sens antihoraire et puis dans le sens horaire.

Avant cette opération s'assurer de la cause.

L'interventions du LIMIT2, qui met en securité le brûleur est signalé par l'allumage du voyant S3. Pour rearmer le Brûleur, appuyer sur le bouton de rearment du LIMIT2

## CONNEXION PAR L'INSTALLATEUR

## 8. Commissioning

### 8.1. Start-up

#### WARNING

Do not remove guards at the air inlet of the generator.

1- Before commissioning and turning on the generator, check that all connections have been carried out as defined above:

- « Exhaust ducts connection» section
- « Condensate connection» section
- « Gas connection» section
- « Electrical connection» section
- « Air connection» section

Check also:

- That an appropriate clearance around the generator has been left
- That nothing blocks the air inlets and outlets. If a head is set, check that louvers are opened. If there is a filter, check that it is clean.
- That all electrical connections have been carried out
- That the connection to the ground is effective
- That the FAN, LIMIT and LIMIT2 thermostats are set to the right values
- That the position of the bulbs-sensors of the Thermostat is tilted upward and that they do not touch the heat exchanger
- That the thermal overload protections of motors are well adjusted at the nominal intensity (three-phase motors only)

2- Check the power supply voltage to the terminals of the generator.

3- Select the ventilation mode and check the direction of rotation of the fans. Measure the intensity of each motor and compare it with the rating plate values.

4- Check that the type of gas and the inlet gas pressure are consistent with the appliance. Check that the main valve is well opened, purge the gas pipe. Switch on the valve located upstream to the generator.

5- Check on the temperature controller that no sensor is at fault.



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6- Put into service the generator

On the temperature controller, set the set temperature to a value higher than 3°C to the temperature of the premises, then, select the automatic mode.


Check that the burner works correctly and that the values of CO<sub>2</sub> emissions are in accordance with the "technical Characteristics" table.

Read the instructions of the RX burner which is provide with this air heating unit.

Check visually that the flame of the burner is stable, and that it does not reach the bottom of the combustion chamber

7- Check that the FAN, LIMIT and LIMIT2 thermostats work correctly.

8- Draft a notebook of follow-up of the generator or the installation, in which you will annotate the compulsory notes according to the laws, the standards and the regulations in force.

9- Set the temperature controller (  refer to its instructions).

## 9. Troubleshooting

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### 9.1. Troubleshooting

---

In case of problem, always check that prerequisites in the smooth running of the generator ("Starting up" section) are performed.

If the control box is in safety mode («Voltage» indicator switched on, and «In operation» indicator switched off), reset.



#### WARNING

All electrical or mechanical interventions should be made when the power is turned off and the gas supply closed.



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Failure	Cause	Solution
1. The master switch (IG) is on -I- and the change-over switch in the –VENTILATION- position, but the indicator is off and the ventilation fan does not work.	1. The electrical board is not alive. 2. The line fuse is burnt.	1. Check that the master switch upstream of the electrical board is on (-I-) 2. Replace the fuse with another part, with the same characteristics
2. As described in 1 <sup>st</sup> section, but the «THERMAL OVERLOAD PROTECTION TRIPPING» indicator is lighted on (3-phase powered generators only)	1. The thermal overload protection has tripped by cutting the power supply of the motor.	1. To re-engage, switch off the main switch (IG), open the lid of the electrical board and press on the button of the thermal overload protection - Check the breaker rating.
3. The master switch is on -I-, the « POWER ON » indicator on, the over switch on – HEATING- the room thermostat on, but the burner does not work.	1. Poor connection of the room thermostat and timer 2. Faulty burner	1. Call a technician for the replacement or the repair of the faulty part. 2. Call the after-sales service of the burner manufacturer.
4. As described in 3rd section, but the « THERMOSTAT LIMIT2 THERMOSTAT TRIPPING » indicator lighted on.	1. The LIMIT2 thermostat has tripped because of overheated air.	1. Do, as described in the « TRITHERMOSTAT » section to reset the burner. <ul style="list-style-type: none"> <li>• Lower air flow rate due to a pressure drop in the inlet or outlet air circuit.</li> <li>• Blocked filters (if any)</li> <li>• Stop of the generator by the master switch or lack of current while running.</li> <li>• Tripping of the fire valve.</li> <li>• Bulbs-sensors of the Thermostat are tilted downward or too near of the heat exchanger, which radiation causes their too early tripping.</li> </ul>
5. As described in 3rd section, but the burner has stopped after the pre-sweeping stage and no flame has occurred.	1. Faulty burner or lack of gas.	1. Call the after-sales service of the burner manufacturer.
6. The burner works, but the ventilation fan is delayed before running and once started, then, starts/stops continuously.	1. Too high setting of the FAN Thermostat. 2. Faulty FAN thermostat. 3. The temperature of the recycling air is below 0°C. 4. Too low gas flow rate.	1. Set it at 25°C (See «TRITHERMOSTAT» section) 2. Call a technician to replace it. 3. Try to increase this temperature. 4. Call the after-sales service of the burner manufacturer.
7. The burner works but the ventilation fan does not start and the « THERMOSTAT LIMIT2 THERMOSTAT TRIPPING » indicator lighted on.	1. The motor has tripped the thermal overheated protection. 2. Faulty electric motor(s), defective contacts or seized bearings.	1. Re-engage, as described in the section 2. 2. Call the after-sales service to check the unit.



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Failure	Cause	Solution
8. During the operation, the burner has stopped without control of the timer or the thermostat.	<p>1. The LIMIT thermostat has tripped.</p> <p>2. The safety LIMIT2 thermostat has tripped.</p>	<p>2. Do, as described in the « TRITHERMOSTAT » section to reset the burner.</p> <ul style="list-style-type: none"> <li>• Lower air flow rate due to a pressure drop in the inlet or outlet air circuit.</li> <li>• Blocked filters (if any)</li> <li>• Stop of the generator by the master switch or lack of current while running.</li> <li>• Tripping of the fire valve.</li> <li>• Bulbs-sensors of the Thermostat are tilted downward or too near of the heat exchanger, which radiation causes their too early tripping.</li> </ul>

REMARK: FOR THE BREAKDOWNS OF THE BURNER, READ THE TECHNICAL INSTRUCTIONS OF THE "RX" BURNER SUPPLIED WITH THE GENERATOR



#### WARNING

Warning, only genuine manufacturer parts ensure product and people safety. The use of parts other than genuine ones invokes the responsibility of the individual and will void the product warranty. Record in follow-up notebook of the device or the installation all the replacements of parts.

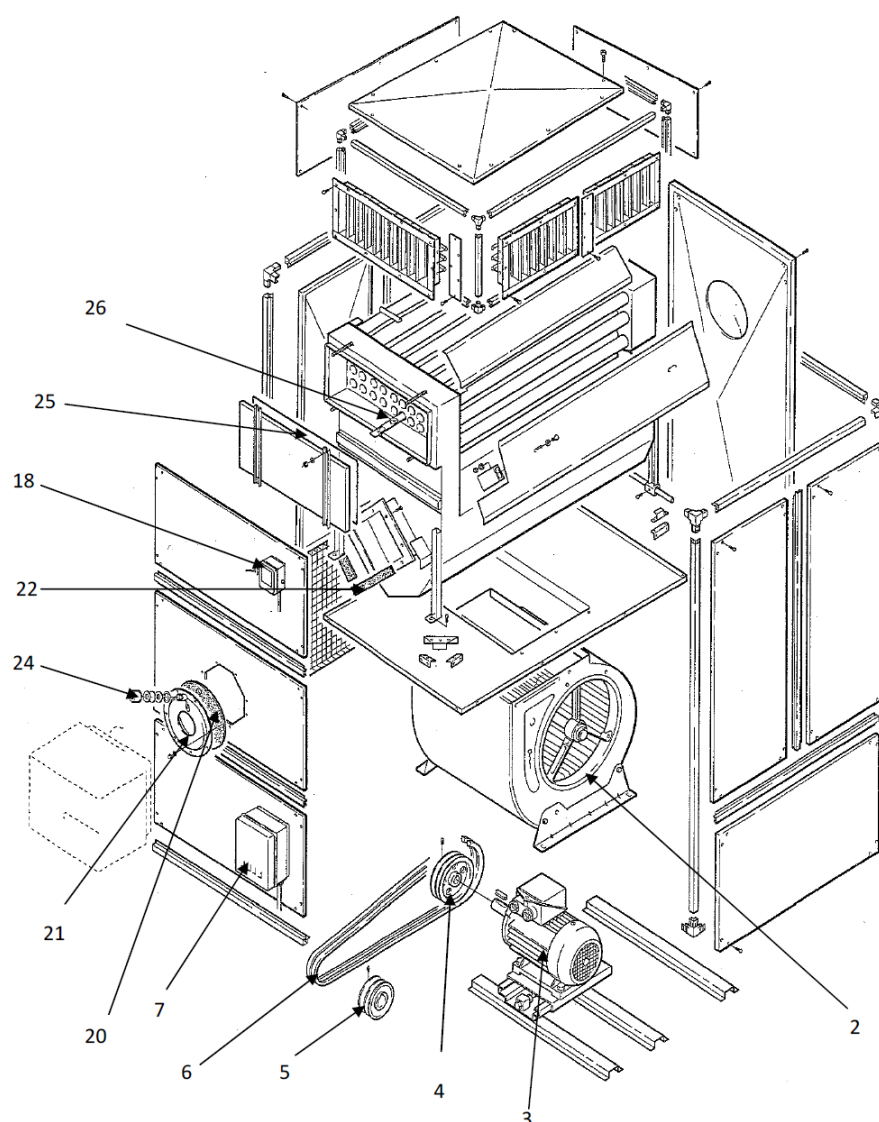


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*Exploded view*

Nb.	Designation	Nb.	Designation
2	Fan	18	Thermostat
3	Motor	20	Joint of the mounting plate
4	Pulley – fan side	21	Mounting plate of the burner
5	Pulley – motor side	22	Joint of the combustion chamber
6	Belt	24	Indicator
7	Electrical board	25	Joint of the smoke box
		26	Turbulator



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### WARNING

Do not contact SOLARONICS CHAUFFAGE before replacing any other parts.

## 10. Maintenance

A proper and regular maintenance, at least once a year, determine an efficient and effective functioning, a minimum consumption and an important longevity.



### WARNING

The gas device must be maintained cold and with electric power cut  
These works can be performed by a qualified technician only

Parts	Maintenance operations
Air outlet and recycling grids	Cleaning in the brush and/or in the vacuum cleaner
Filters	<p>The filter is an accessory. A blocked filter reduces the air flow, thus increases the outlet air temperature and reduces the exchange of heat and the efficiency of the generator. It is thus very important to clean regularly the filter to maintain it clean. The frequency of the cleaning depends on the quantity of dust being in the filtered air.</p> <p>For the cleaning, operate as follows:</p> <ul style="list-style-type: none"><li>- Remove the filter of its frame</li><li>- Shake it and drop the dust</li><li>- Blow the filter with some compressed air against the current</li><li>- Regularly, for a better well-kept cleaning, wash the filter in tepid water with a detergent, dry it and put it back in place.</li></ul> <p>CAUTION! After three washes, the filter must be replaced by a new one having the same code.</p>
Burner	For the burner maintenance, comply with the technical instructions of the "RX" burner, delivered with the unit.
Chimneys	Check air combustion ducts and flue gas ducts. Pipes must be tight in smokes and corrosion-resistant. They must be annually checked.

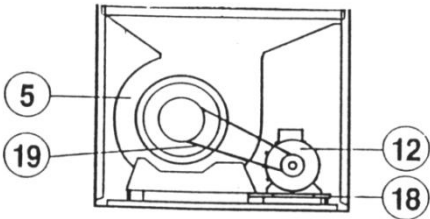
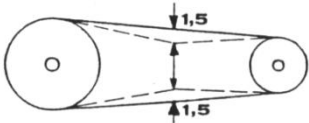


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TECHNICAL INSTRUCTIONS – CONDENSING WARM AIR GENERATOR – NT10001D-GB

Parts	Maintenance operations
Combustion analysis	<p>At least once, at the beginning of every season of heating, and more often if the regulations require it, make an analysis of combustion and record the results in the follow-up notebook of the device or the installation.</p> <p>Check the pressure of gas supply and analyze the combustion of the device.</p> <p>During the control, check that the probe of analysis is tight at the level of the point of taking, the extremity of the probe set in the center of the exhaust duct of smokes.</p>
Ventilation fan	<p>At least once, at the beginning of every season, check:</p> <ul style="list-style-type: none"> <li>- The correct alignment of pulleys and drive belts (if any), as well as the wear of belts (if need be, replace them by belts of the same size)</li> <li>- The direction of rotation of ventilation fan, indicated by the arrow on the fan.</li> <li>- The tension of belts: by tightening them in hands, their flexion has to be about 2-3 cm (see the below drawing). To adjust the tension, screw or undo the stretching screw o the belt located on the engine slider (18).</li> <li>- The absorbed current of the motor(s) shall not exceed the rating plaque values.</li> <li>- The correct operating of the thermostats set of the generator.</li> </ul> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p style="text-align: center;">fig 13</p>



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Parts	Maintenance operations
Heat exchanger	<p>Soot and scoria shall be removed from the heat exchanger so as to keep its efficiency. The cleaning must be made at the end of every season of heating, or more often if the heat exchanger requires it. If the burner does not start easily, the cause can be the soot accumulating in the heat exchanger and blocking the passage of combustion gases. Formation of soot can depend on various causes, such as: a bad draft, a burner with a low air supply. To clean the heat exchanger, operate as follows:</p> <div data-bbox="544 465 1369 925"> </div> <p><u>Pipes of the heat exchanger (10)</u>  Remove the back panel, the joint of the smoke connection (8) and the 2 covers of the back smoke box (9).  Remove the turbulators and clean tubes inside.  Remove the soot at the back. Before reinstalling the 2 covers of the smoke box, check that its joints are intact; otherwise replace them by joints having the same code. Remove the pipe on the joint of the chimney (8) and clean the back smoke box (9).</p> <p><u>Combustion chamber (11)</u>  Remove the burner of its mounting plate (4).  Remove the soot and the scoria from the internal walls.  Check that the combustion chamber did not undergo damage.  Check that the joint of the mounting plate of the burner as well as the internal corresponding inside one, on the grid are in good condition, otherwise replace them by joints having the same code</p>



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## 11. Garanty

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Your appliance has a contractual guaranty against any manufacturing defect.

Solaronics Chauffage is not responsible for improper use of the device, failure or insufficient maintenance, or improper installation of the appliance (it is your responsibility to ensure that it is carried out by a qualified professional).

In particular, Solaronics Chauffage will not be liable for any damage, loss or injury caused by improper installation that does not comply:

- with legal and regulatory provisions or imposed by the local authorities
- with national, or even local and specific rules governing the installation
- with our technical instructions, in particular, for maintenance of the devices
- with the good engineering practice

Solaronics Chauffage warranty is limited to replacement or repair of defective parts only by our services excluding labour costs, travel and transport.

Our warranty does not cover replacement or repair of damaged parts by normal wear and tear, misuse, unskilled third party interventions, defect or failure in monitoring or maintenance, non-compliant power supply or use of an inappropriate fuel or of poor quality.

Subsets, such as motors, pumps, electric valves, etc ... are only guaranteed if they have never been removed.

Rights established by the European Directive 1999/44/CEE remain valid.



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## APPENDIX

### **END OF LIFE OF EQUIPMENT**

This device contains electrical and / or electronic components and should not be considered as household waste. Ensure compliance with applicable standards and regulations for waste disposal when dismantling.

### **THE RIGHT THING FOR THE SAFETY**

- Keep ventilation in good condition:
- Keep free and clear air inlets and outlets (grids, vents ...)
- Check annually flues ducts.
- Maintain equipment:

Maintain or make maintain the equipment by a competent person at appropriate intervals, following the manufacturer's recommendations

- Check the gas appliance by a competent person in case of triggering of a safety device

### **SMELL GAS? GOOD REACTIONS**

Flammable but non toxic, gas has been odorized to allow discovering any leak, even small.

This smell allows you to react fast. If you smell gas, close the gas valve and check the equipment. If everything is normal and the smell persists, you have to have the good reflexes

### **DO NOT PROVOKE ANY FLAME OR SPARK ... AND DO NOT USE ELECTRICAL APPLIANCES.**

- Do not call an elevator, use a phone, even mobile, press an electric switch, not to create a spark.

Whatever the room where the gas smell is perceived, ventilate this room as much as possible by opening windows and doors.

"Gas troubleshooting" service is at your disposal 24/24 and 7/7 at the gas distributor. This service reacts free of charge and as soon as possible in case of gas leak or smell.

- The phone number is: ....., it is noted on the invoices

The number of the emergency services (fire) is: .....



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Catalogue Tarif  
Professionnel



Pièces de rechange



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