

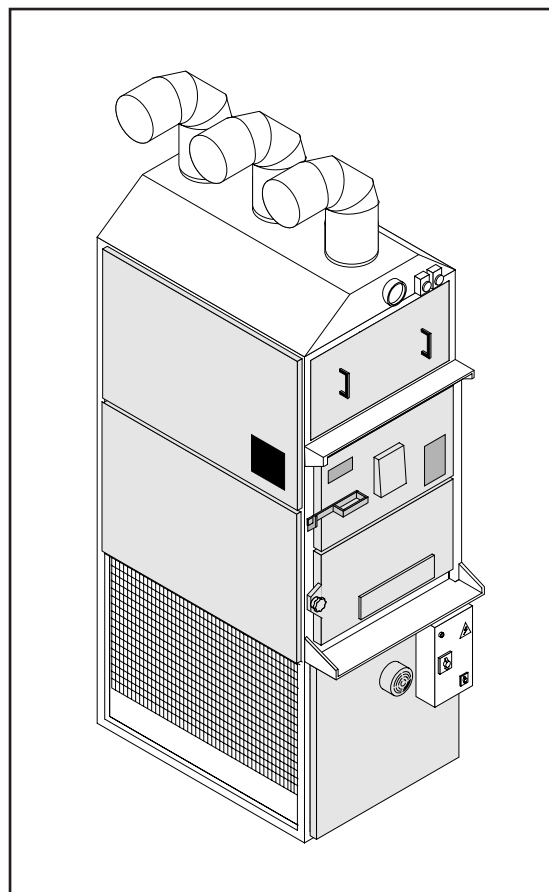
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**Technical guidebook**

**User guide**

**Assembling**

**Maintenance**



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# WARM AIR GENERATOR

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**MOD. F85**

**MOD. F120**

**MOD. F240**

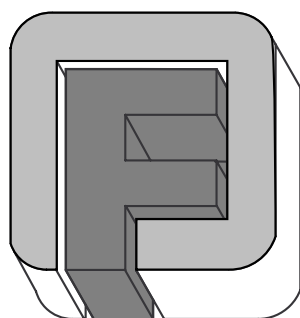
YEAR OF MANUFACTURING

SERIAL NUMBER

---

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**Text Version**  
**11-09**



**FABBRI TERMOMECCANICA S.r.l.**

**Via Cangiotti, 10**

**61100 PESARO (PU)**

**Tel.0721/282537 Fax 0721/282970**

**[www.fabbriermomeccanica.it](http://www.fabbriermomeccanica.it)**

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## **LEGEND**

**This symbol indicates danger, and will be used every time the operator's safety is involved.**



**This symbol indicates caution and is used to draw attention on very important operations needed for the proper and long-lasting use of the.**



**This symbol represents an environmental note, and draws attention on rules to follow for the environment's preservation.**

Dear Customer,

Before using the machine, it is important to read this handbook.

In order to ensure the operator's safety, the machine's devices must be kept in constant efficiency.

This booklet shows how to use and maintain the machine, and it is the operator's duty and responsibility to follow the present instructions.



**WARNING! The following instructions are meant for your safety.**

**Keep this booklet with care, for other operator's easy use.**

**The installation must be performed according to the manufacturer's instructions by trained personnel.**



**This machine must only be used for the purpose it has been built. Any other use is to be considered dangerous.**

**The machine must be used only by specifically trained personnel.**

**For any repair operations, always refer to a manufacturer-authorized assistance centre, and ask for original spare parts.**

**Disregarding any of the above might compromise the machine's safety.**

MODEL

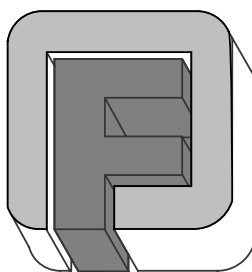
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# **1 TECHNICAL SPECIFICATIONS**

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## **1.1 MACHINE DESCRIPTION**

This machine is a warm air generator which operates with solid fuel.

The framework is made up of a square profiled steel chassis and panels in galvanized polished steel.

On the chassis' lower part are located the vents for the air to be heated, which push the air inside the heat exchanger. The air is then expelled by exhaustion vents on the upper part of the machine.

The combustion chamber is chrome INOX steel, reinforced with ribs, and it is placed above the vents.

Inside, the furnace is separated from the cinerary by a steel grid.

The loading doors on the back of the machine are steel and internally coated in refractory materials. On the lower door you will find the shutter for regulating the combustion chamber's power.

The upper door, with a handle, is used to load fuel in the machine.

The fumes' exhaust pipe in the combustion chamber is linked to the heat exchanger above it.

The heat exchanger is made up of a series of pipes that run down the back and are linked to the draft mechanism, which is in turn operated by an external engine (except in the F85SV model).

On the control panel you will find the switches to start up the draft engine and the air heating vents.

## **1.2 APPLIED REGULATIONS**

### **Summary of laws and harmonized and technical rules**

- |          |   |
|----------|---|
| 1.       | Directive CEE 98-37 (Directive regarding Machines).   |
| EN 292/1 | Machine safety – fundamentals, general design principles – terminology, basic methodology.          |
| EN 292/2 | Machine safety – fundamentals, general design principles – technical specifications and principles. |
| EN 294   | Machine safety – safety distance to avoid upper arms to make contact with dangerous parts - 1992.   |

EN 563 Machine safety – contact surface temperature. Ergonomic data to establish temperature values limits for heated surfaces. (june 1994).

UNI 8364 Heating systems – checkup and maintenance.

2. Directive CEE 73-23 (Directive regarding low tension).

EN 60204-1 Machine safety – electric equipment Part 1 general requirements. - 1992 (revision of EN 60204-1).

EN 60529 Casing protection degrees (june 1991)

EN 60445 identification of terminals and drawn conductors, and rules for the alphanumeric

3. Directive CEE 89-336 (Directive regarding EMC - electromagnetic compatibility).

EN 50081-2 electromagnetic compatibility – generic emission rule. Part 2: industrial environment

EN 50082-2 electromagnetic compatibility – generic immunity rule. Part 2: industrial environment.

### 1.3 WORK STATION

The machine need not be manned, therefore there is no need for an operator to use it, just to periodically reload fuel.

The operator's presence is required only when combustion is started.

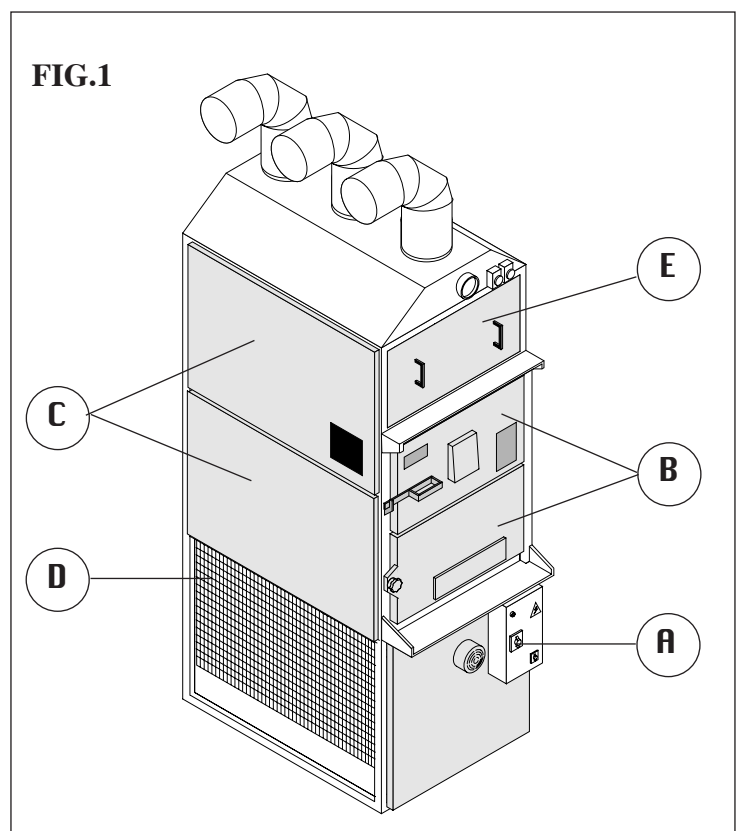
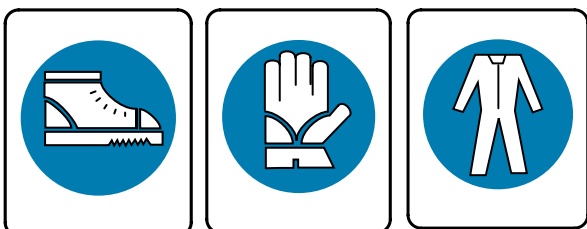
### 1.4 PROTECTIONS

The machine is equipped with the following safety systems (Fig.1):

- Protection of the power grid with doorlock (pos.A).
- Mechanical protection in the loading area, coated in refractory materials (pos.B).
- Permanent mechanical protection using a galvanized steel sheet on the machine's sides (pos.C).
- Mechanical protection using a metal grid in the vents' suction tract (pos.D).
- Mechanical protection using a steel sheet reinforced with refractory materials in the heat exchanger's inspection tract (pos.E).
- Alarm (pos.F) (models F240-120 and F85SV only).

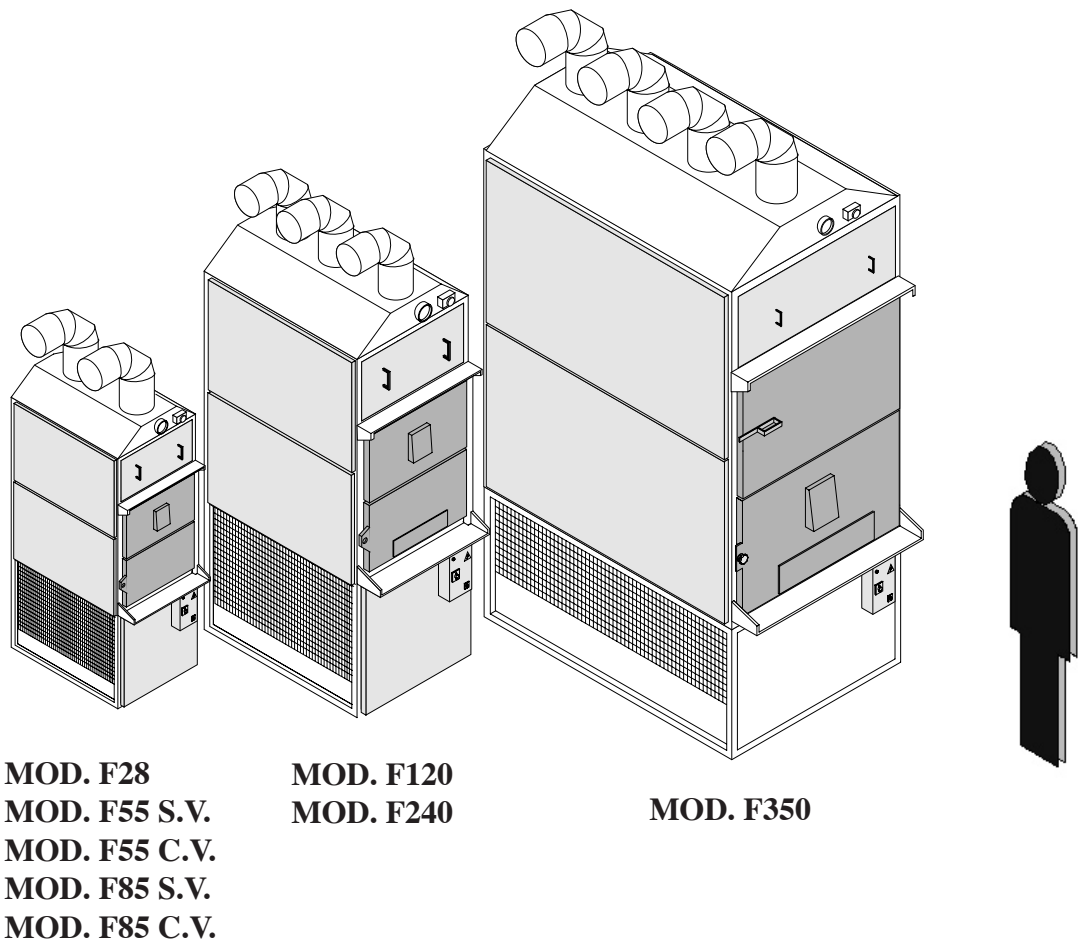
Furthermore, for the operator's safety we recommend:

- Protective suits
- Shockproof shoes
- Protective gloves



## 1.5 MODELS

FIG.2

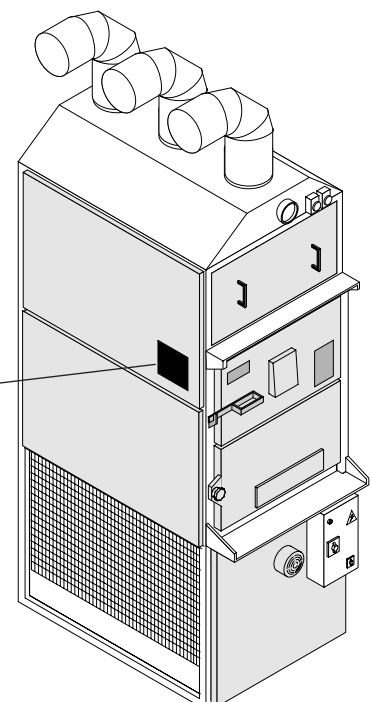


## 1.6 IDENTIFICATION

When contacting the manufacturer, always provide the machine's serial number and year of manufacturing, found on the plate affixed on the right hand side (see fig.3).

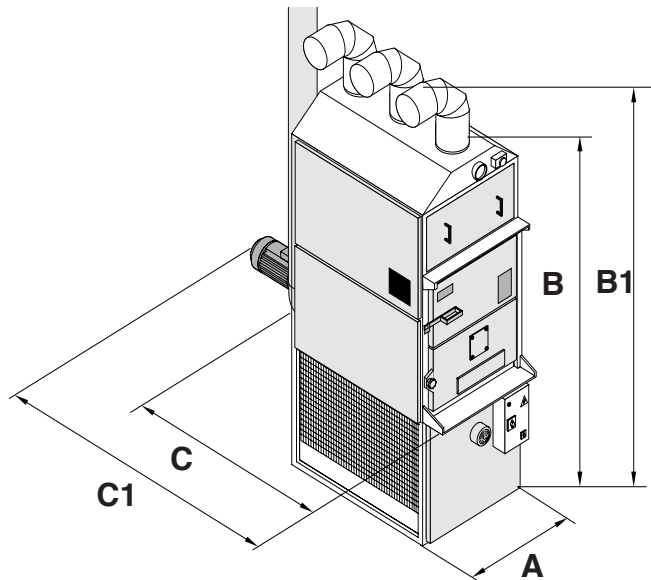
FIG.3

<b>FABBRI</b>		
<b>TERMOMECCANICA S.r.l</b>		
Via Cangiotti, 10 - 61100 - Pesaro - Italia Tel. 0721.282537 - FAX 0721.282970		
<b>GENERATORE DI ARIA CALDA</b>		
APPARECCHIO TIPO	_____	
ANNO DI COSTRUZIONE	_____	
NUMERO DI SERIE	_____	
POT.MASS. FOC.	KW	KCal/h
POT.TERMICA RESA	KW	KCal/h
TENSIONE	V	
POT.ELETTRICA	KW	
PORT. ARIA	m <sup>3</sup> /h	
COMBUSTIBILE	LEGNA	
PESO	kg	



## 1.6 IDENTIFICATION

FIG.4



MODELS	F28	F55 S.V.	F55 C.V.	F85 S.V.	F85 C.V.	F120	F240	F350
A (mm)	560	690	690	800	820	930	1100	1220
B (mm)	1560	1750	1750	1980	1980	2200	2500	3000
B1 (mm)	1900	2100	2100	2400	2400	2600	3000	3400
C (mm)	920	1150	1150	1280	1280	1700	1900	2700
C1 (mm)	920	1150	1520	1280	1690	2060	2290	3160
WEIGHT (kg)	170	260	305	365	415	615	850	1575

## 1.8 LABELLING

The machine features warning labels in the indicated areas (fig.5).

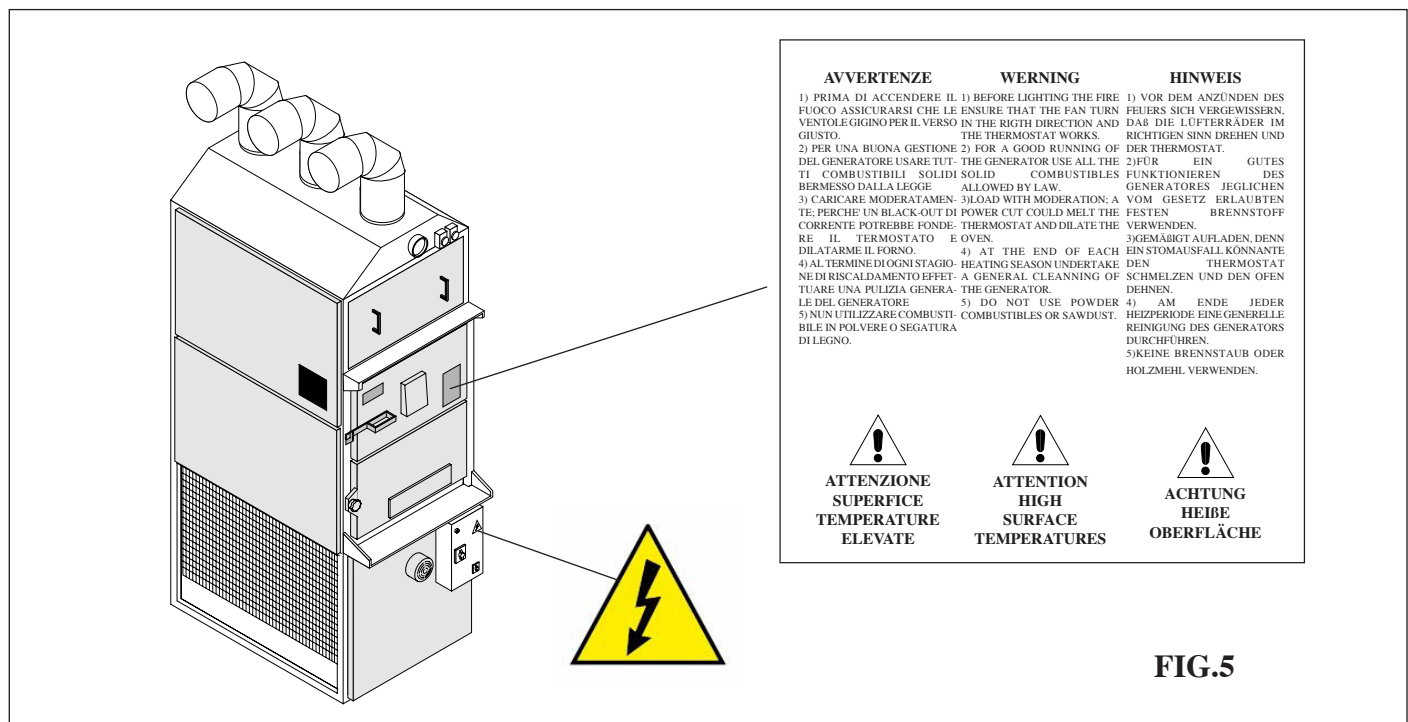


FIG.5

## 1.9 TECHNICAL SPECIFICATIONS

<b>MODELS</b>		<b>F28</b>	<b>F55</b>	<b>F85</b>	<b>F120</b>	<b>F240</b>	<b>F350</b>
<b>DATA</b>							
<b>Fuel</b>		<b>WOOD - CHIPPINGS – TURF</b>					
<b>Furnace power</b>	(Kcal/h)	29900	69000	99500	150000	300000	437000
	(KW)	34	80	115	175	350	510
<b>Effective conventional power</b>	(Kcal/h)	25000	55000	80000	120000	240000	350000
	(KW)	29	64	93	140	279	407
<b>Air intake (m<sup>3</sup> /h)</b>		2200	3500	6300	8900	17800	26000
<b>Fuel consumption (Kg/h)</b>		13	20	30	43	85	125
<b>Vents electric power (HP)</b>		0,2	0,35	1,5	3	4	6
<b>Suction vents electric power (HP)</b>		-	0,35	0,35	0,75	0,75	1,5
<b>Engine voltage (V)</b>		220 (monoph.)	220 (monoph.)	380 (triph.)	380 (triph.)	380 (triph.)	380 (triph.)
<b>Chimney diameter (mm) (models without fumes vent)</b>		160 Ø	180 Ø	180 Ø	-----	-----	-----
<b>Chimney diameter (mm) (models with fumes vent)</b>		-----	180 Ø	180 Ø	200 Ø	200 Ø	250 Ø
<b>Exhaust pipes diameter (mm)</b>		2x180Ø	2x200Ø	2x250Ø	3x250Ø	3x300Ø	4x350Ø

## **2 INSTALLATION**

---



### **WARNING!**

**The generator's installation must be performed in observation of the current laws and technical rules, and its design must be performed by a freelance professional with regular profession registration**

### **HEATING SYSTEM DESIGN AND INSTALLATION**

#### **Law n. 46, 5th May 1990.**

“Rules for systems safety”.

#### **Law n.10, 9th January 1991.**

“Rules for enforcing the national energetic plan regarding energy rationing, energy saving, and development of renewable energy sources”.

#### **Presidential Decree n. 447, 6th December 199.**

“Rules for applying the Law n. 46, 5th May 1990, regarding systems safety.”

#### **Presidential Decree n.412, 26th August 1993**

“Rules for designing, installing, operating and maintaining heating systems in buildings towards the lowering of consumptions in respect of art. 4, paragraph 4 of the Law n.10, 9th January 1991.”

### **RULES FOR PREVENTING POLLUTION DURING HEATING SYSTEM INSTALLATION.**

#### **Law n. 615, 13th July 1966.**

“Rules against pollution”.

#### **Presidential Decree n. 1391, 22nd December 1970.**

“Rules for applying Law n. 615, 13th July 1966 with rules to prevent pollution, regarding heating systems”.

### **RULES FOR PREVENTING FIRES DURING HEATING SYSTEM INSTALLATION.**

#### **Minister of Internal Affairs Draft n.73, 29th July 1971.**

“Heating systems operating with oil fuel or oil gas – Rules against pollution. Rules to prevent fires.”

#### **Presidential Decree n.689, 26th May 1959.**

“Indication of companies and operations subject to controls by the Firefighters Command in order to prevent fires.”

#### **Ministerial Decree 16th February 1982.**

“Changes to Ministerial Decree 27th September 1965, dealing with companies subject to controls to prevent fires.”

#### **Decree n.246, 16th May 1987.**

“Rules for fire prevention in civilian buildings.”

## INSTALLATION RULES FOR THE ELECTRIC SYSTEM'S SAFETY.

### Law n. 186, 1st March 1968.

“Rules for producing and installing electrical and electronic systems, materials, and machines.”

### Italian Electro-technical Committee Rule 64-8.

Electric systems operating at a nominal tension non above 1000 V A/C and 1500 V D/C

## 2.1 TRANSPORT

The machine can be transported via truck, ship, train, and plane.

The machine is usually shipped wrapped in nylon, and the suction engine is dismantled.

All accessories are shipped separately.

## 2.2 LIFTING AND HANDLING

The machine can be lifted with a crane or freight elevator, using two hooked, clasped tows at least 1 meter long, or with a fork lift.

If lifted with a crane or freight elevator:

Place the hook end of the tows on top, and in the eyebolt in the lower part (fig. 6), placed in the plates welded on the exchanger.

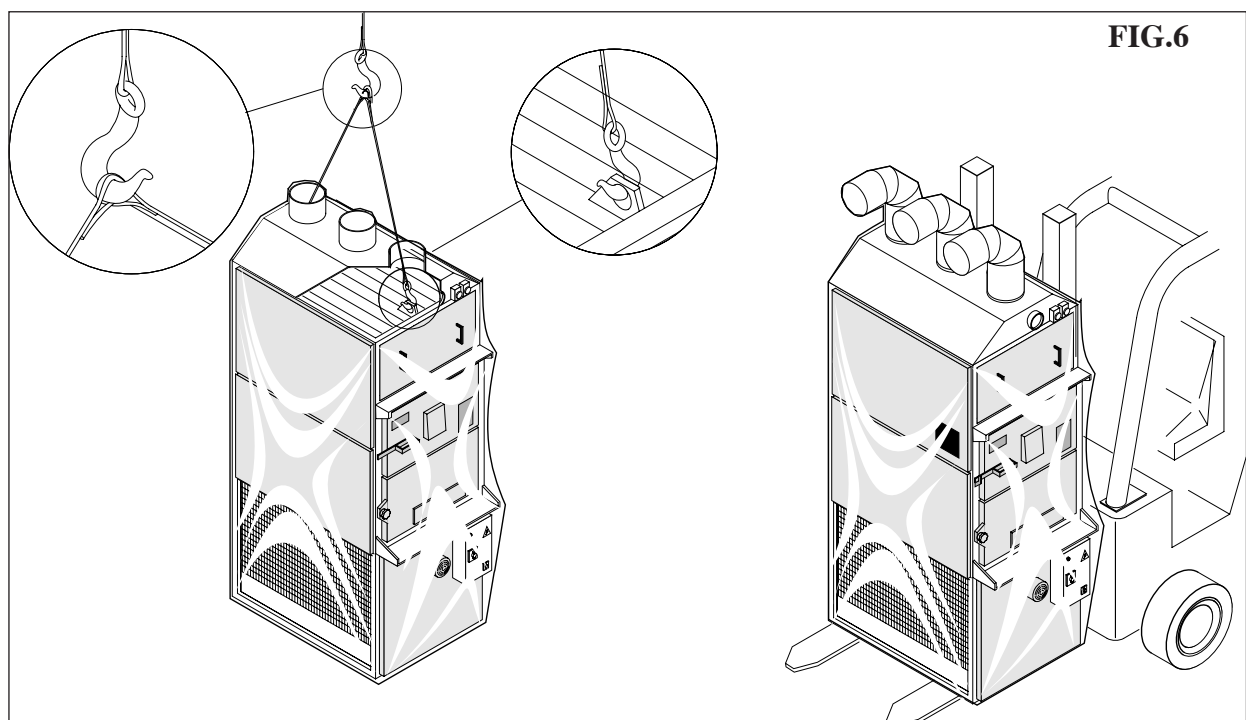


### WARNING!

Lifting the machine with shorter tows can damage its upper parts.

## 2.3 ACCESSORIES

The only accessory for the machine is the fumes purifier, available on demand.



## 2.4 ENVIRONMENTAL SPECIFICATIONS

While positioning the machine, keep in mind that its functioning is guaranteed under an ambient temperature between 5°C and 40°C, and relative humidity between 35% and 75%

## 2.5 INSTALLATION



### - Package

**Do not throw the package in the trash, instead separate the various components according to materials (cardboard, wood, steel, polyester, and so on) and dispose of them according to your Country's laws**

The machine needs a solid support on the floor.  
Position the machine according to its designated space.  
Install the warm air diffusion vents (pos. 2 fig.7a-7b-7c).



### IF THE MACHINE HAS THE FUMES VENT:

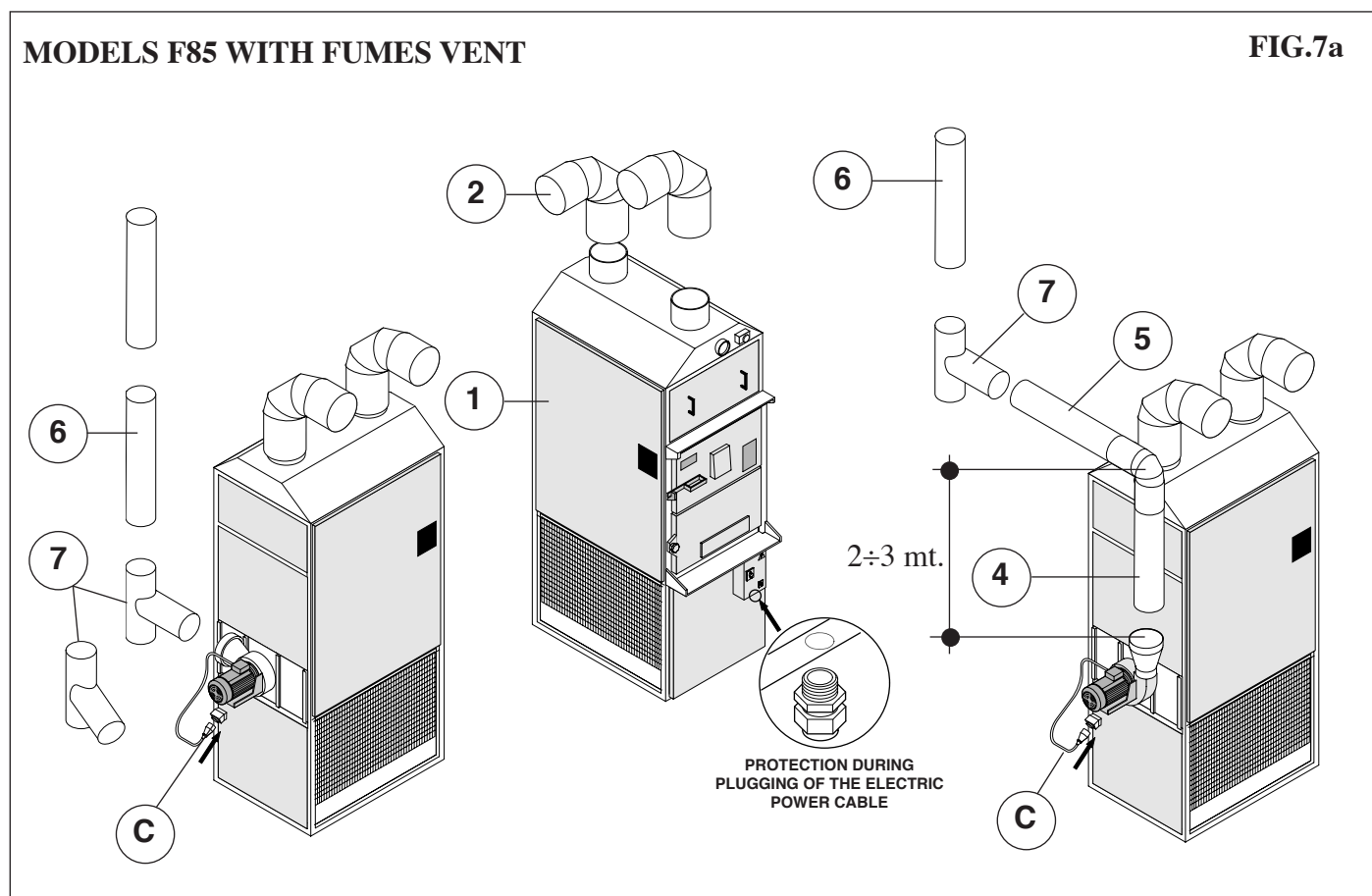
**Install the fumes aspiration system (pos.4 fig.7a-7b-7c).**

Install the various tracts of the warm air generator's flue (pos.4, 5, 6 fig.7a-7b-7c).



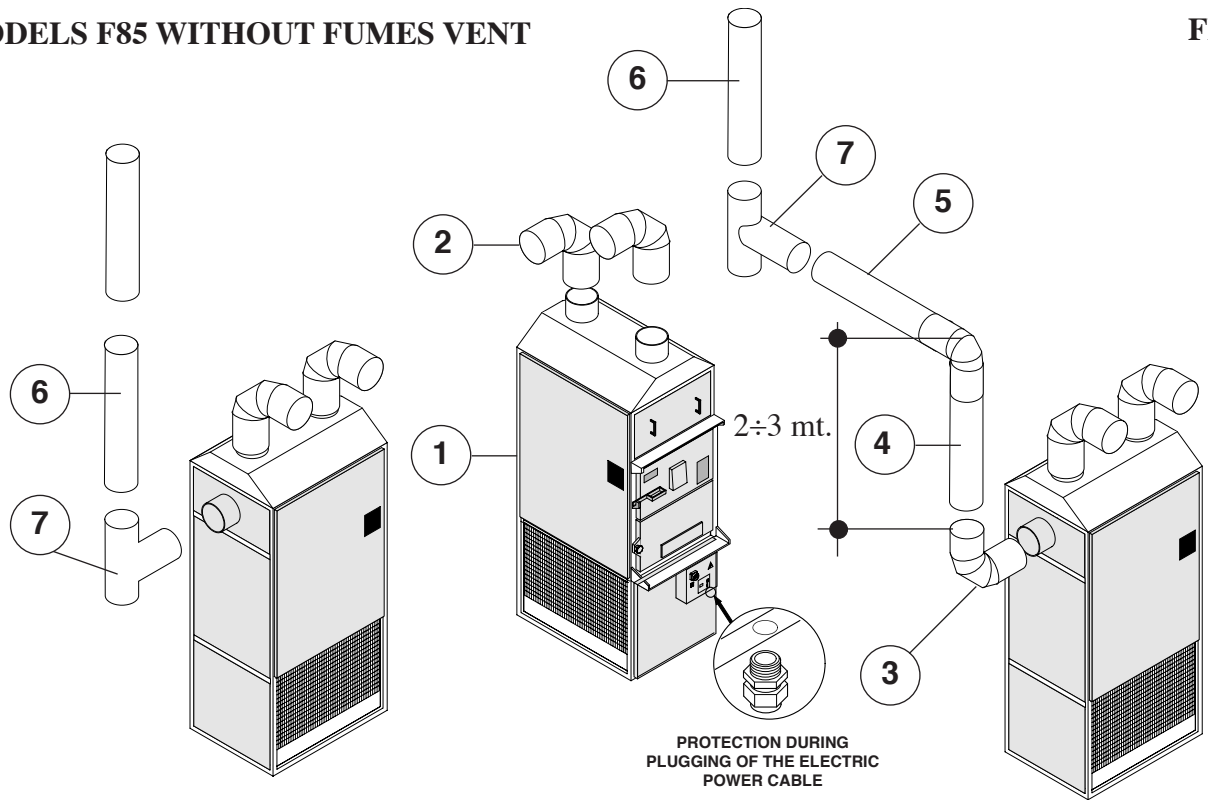
### WARNING!

**You must install at least one special pipe T-shaped element in the flue (pos.7 fig.7a-7b-7c), which helps in cleaning operations.**



**MODELS F85 WITHOUT FUMES VENT**

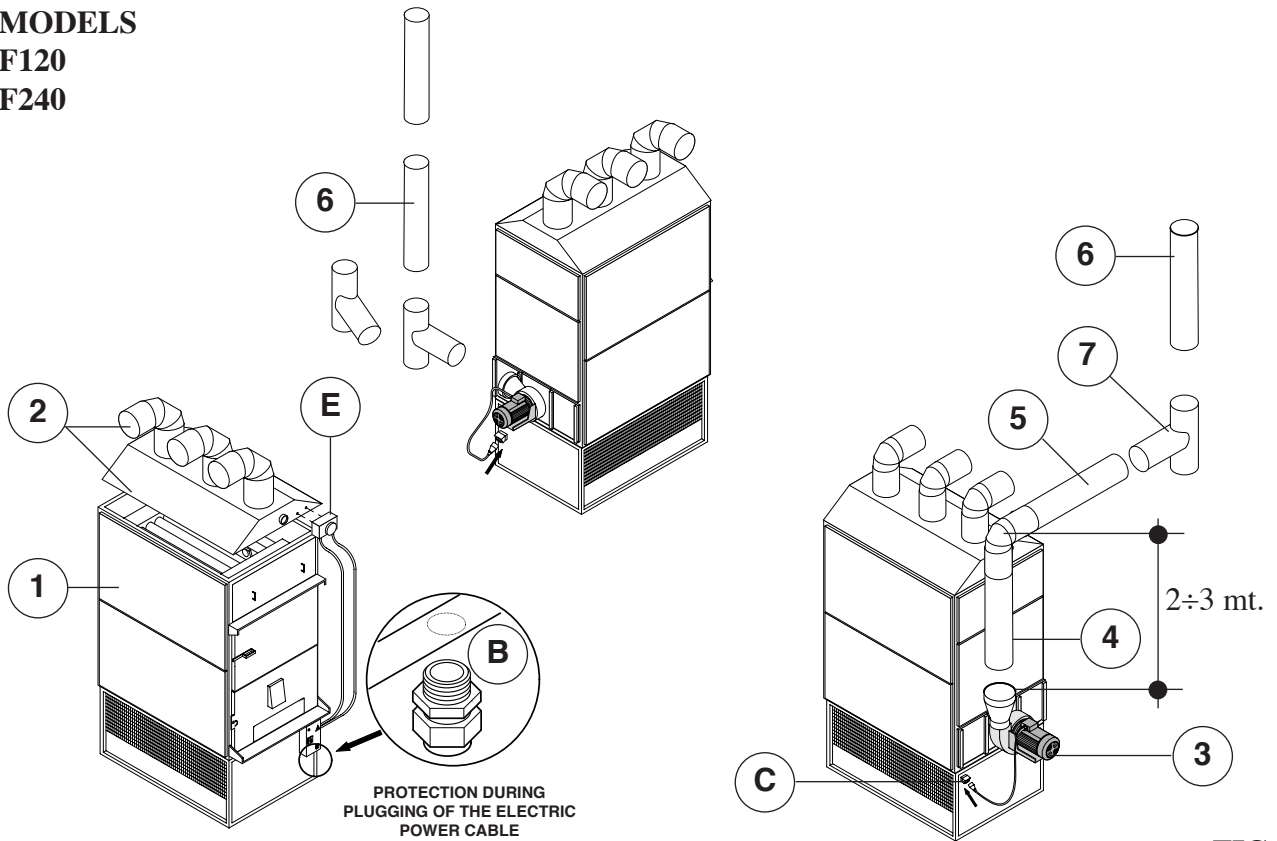
**FIG.7b**



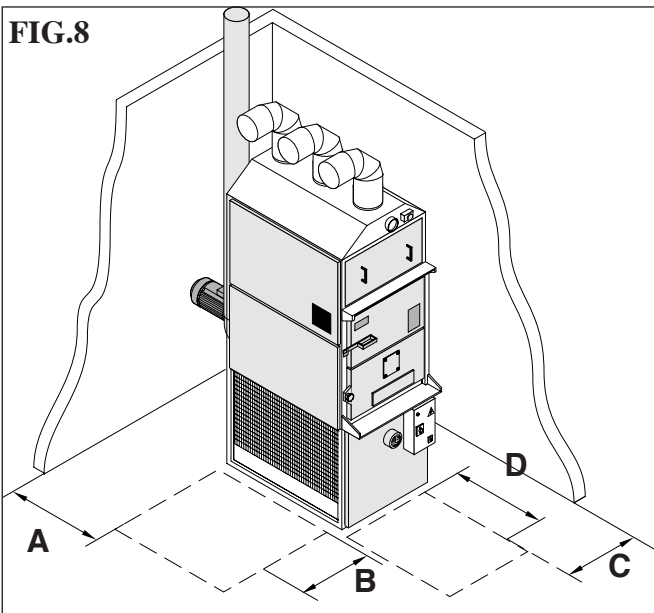
**WARNING!**

The initial vertical section of the flue should never measure more than 2 or 3 meters in length (pos. 5 fig.7a-7b-7c) before applying the T-shaped tract (pos.7 fig.7a-7b-7c).

**MODELS  
F120  
F240**



**FIG.7c**



	A	B	C	D
<b>F28</b>	1000	600	600	1500
<b>F55</b>	1000	600	600	1500
<b>F85</b>	1000	600	600	1500
<b>F120</b>	1200	600	600	1800
<b>F240</b>	1200	600	600	1800
<b>F350</b>	1200	600	600	2000

The values in the table are expressed in mm.

## 2.6 MAINTENANCE SPACE

During installation of the machine, it is advisable to set up an area for later maintenance operations, as indicated in fig. 8.



**IMPORTANT:** the values in the tables are the recommended minimum values.

## 2.7 ELECTRIC PLUG-IN



### WARNING!

Before plugging in, make sure you have a proper grounding system which follows the current European Laws (EN).

Check the compatibility of the network voltage with the specifications in the appropriate label in the machine (fig. 2).

Power fluctuations greater than  $\pm 10\%$  of the nominal voltage indicated in the label can cause serious damage on the machine. That damage is not covered by the warranty.



**IMPORTANT:** verify that the power cable is the right size.

Turn the switch on the 0 position in the F85 CV-F120-F240 models (pos. A fig.11), in the F85 (pos. A fig.11B).

Insert the machine's power cable through the gland under the power grid (pos. B fig.7). Connect wires in the terminal by following the attached electric plan (TAV. 2) and following.



**IF THE MACHINE HAS THE FUMES VENT:**

Plug the fumes suction grid's cable (pos. C fig.7).

Once the cable has been plugged, the suction vents' orientation should be checked.

In the F85 CV-F120-F240 models, proceed as follows:

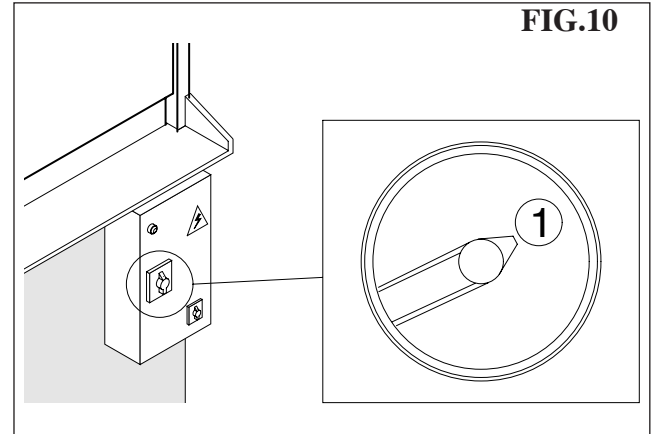
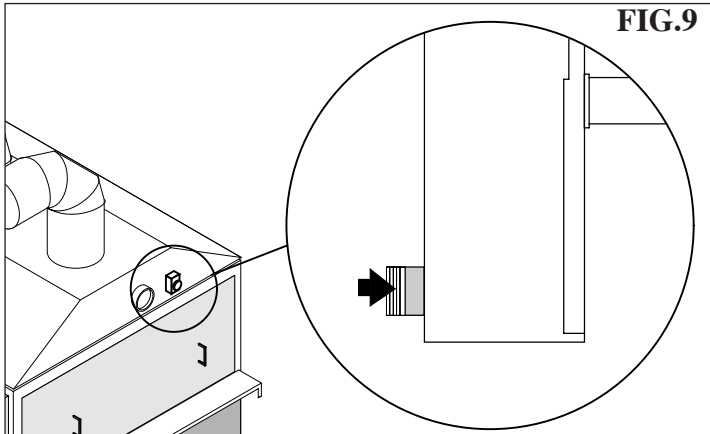
- Turn on the manual operation of the vents' thermostat (press the white button) (fig.9);
- Turn on the general switch (fig.10);

- Make sure the vents' orientation is correct (refer to the arrows on the fans)



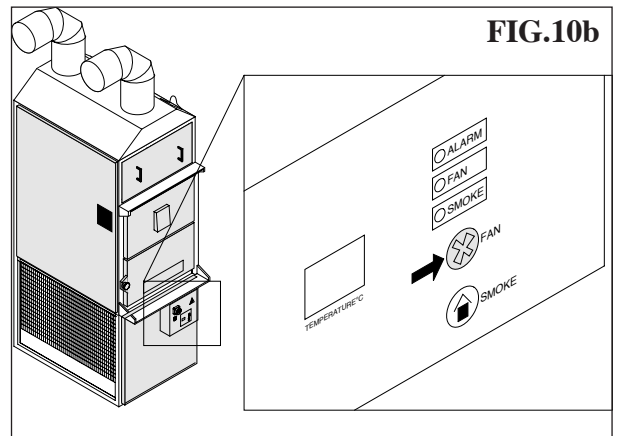
**WARNING!**

Should this checkup be skipped, the combustion chamber could be damaged during the first startup, due to overheating of the entire machine.



In the F85 SV model, proceed as follows:

- Turn on the general;
- Press the “FAN” button to start up the vents (fig.10b);
- Make sure the vents' orientation is correct (refer to the arrows on the fans)



# 3 OPERATION

In the F85CV - F120- F240 models

## 3.1 PRELIMINARY CONTROLS



**WARNING!** Before starting up the machine make sure that:

- The power grid's general switch is turned off (pos. OFF).
- The machine's general switch is turned on 0 (pos.A fig. 11).
- All installation and assembling has been performed correctly, especially during orientation of the vents.

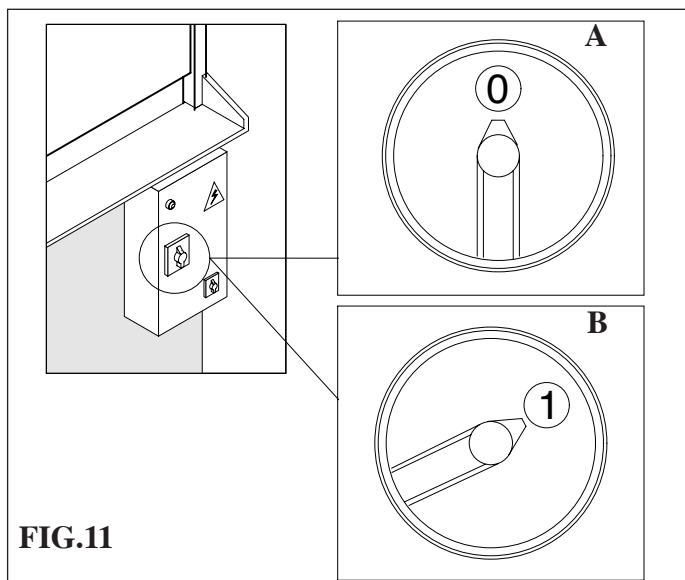


FIG.11

## 3.2 STARTUP (summer)

Turn on the machine's general switch (fig.11 pos.B).  
Turn on the fumes vent by pressing its button (fig.12 pos.1).  
Load the fuel using the grid in the machine's upper part.  
Turn on fuel loading and wait for combustion to start up.

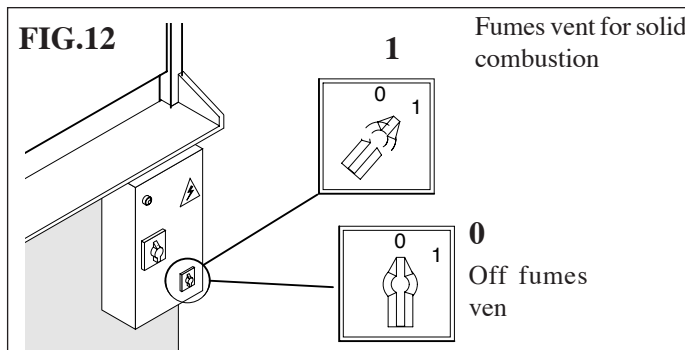


FIG.12



**WARNING!**  
Do not use liquid fuel.



**WARNING!**  
If the machine has got a fumes vent, do not turn it off during combustion.

To adjust combustion, regulate suction power in the lower (fig.13 pos.3).  
The thermostat that regulates the vents' startup is already set at a temperature between 30°C and 40°C.  
The alarm's thermostat is already set to activate at 90°C.  
When the desired temperature has been reached, the air vents will activate automatically (press the white button, turn it on automatic position) (fig.14).

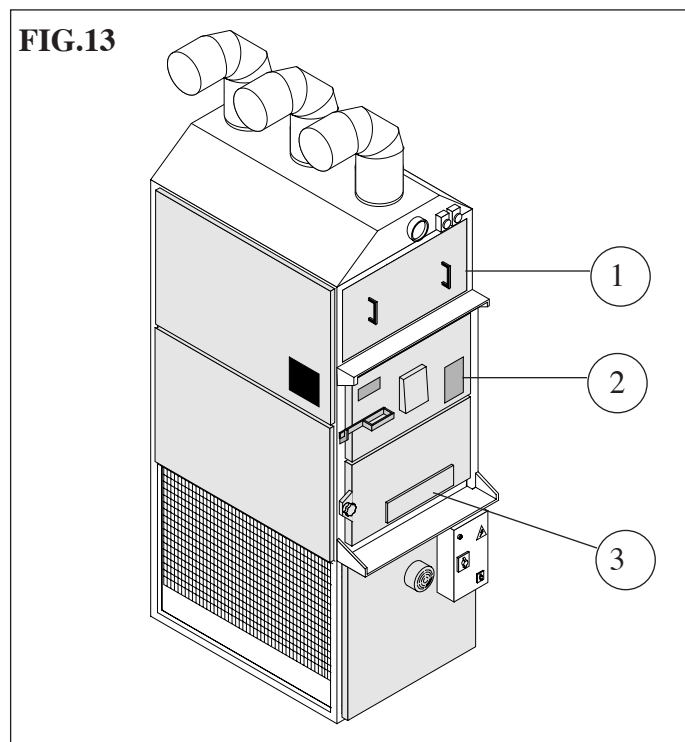


FIG.13

### 3.2.1 STARTUP (summer)



**IMPORTANT:** to turn on cold air circulation, press the fumes vent button (pos.3 fig.16) in absence of combustion.

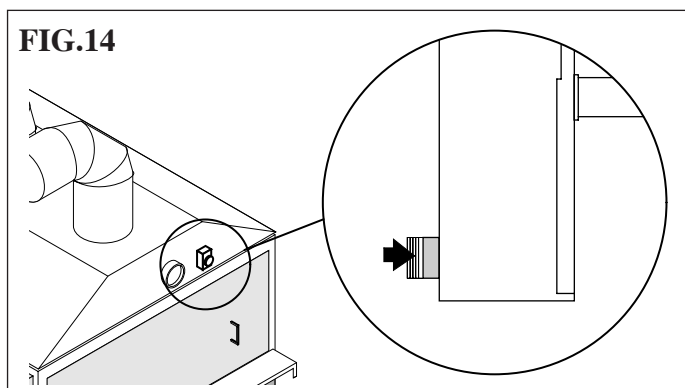


FIG.14

### 3.3 TWIN THERMOSTAT OPERATION

The thermostat's sensor is placed on the suction vent. It can start and stop the ventilation system (FAN function), and regulates the overheating alarm mechanism (LIMIT function) when it is available.

#### 3.3.1 FAN FUNCTION

When the ambient temperature near the sensor reaches the value set on the twin thermostat's board (40°C), an electric contact in the thermostat will be closed, and the ventilation system will activate.

When the ambient temperature near the sensor drops lower than the value set on the twin thermostat's board (30°C) an electric contact in the thermostat will be opened, and the ventilation system will stop.

#### 3.3.2 LIMIT FUNCTION

When the air in proximity of the sensor is overheated due to an anomaly, and the temperature reaches the value set on the twin thermostat's board (100°C), an electric contact in the thermostat will be closed, and the alarm will activate.

#### 3.3.3 PLUGGING AND CALIBRATION

The warm air generator's wirings are already plugged, and the twin thermostat is already calibrated. Should you need to perform those operations again (in case of maintenance, checkups, or replacements), please follow the instructions below (fig. 15):

##### Legend:

1. Wirings for FAN function.
2. Twin Thermostat's board.
3. Fastening holes.
4. Ventilation system's stop temperature indicator.
5. Ventilation system's start temperature indicator.
6. LIMIT function's activation temperature indicator.
7. Holes for wires block. By inserting the tip of a screwdriver in this hole, the clamp will be blocked, and it will be possible to insert a wire. Removing the tip of the screwdriver will automatically block the wire inside the clamp.



**WARNING!** Make sure the wire is tightly blocked inside the clamp by gently pulling it.

8. Wirings for LIMIT function.
9. Metal bridge.

White button for automatic (raised) or manual (pressed) ventilation.



**IMPORTANT!**  
The metal bridge (9) must be removed in all models.  
When adjusting values (4) (5) (6) do not turn the board (2), or the twin thermostat will be damaged.

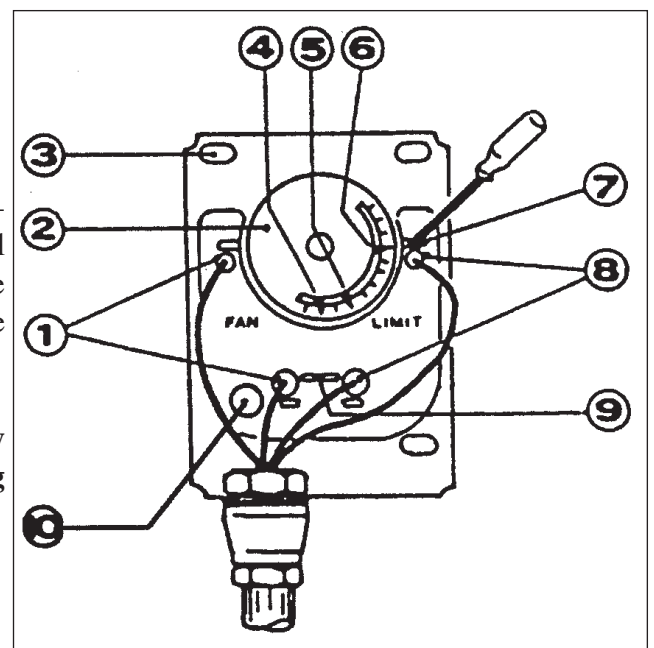


FIG.15

Model F85 SV only.

### 3.1 PRELIMINARY CONTROLS



**WARNING!** Before starting up the machine make sure that:

The power grid's general switch is turned off (pos. OFF).

The machine's general switch is turned on 0 (pos.1 fig. 11).

All installation and assembling has been performed correctly, especially during orientation of the vents.

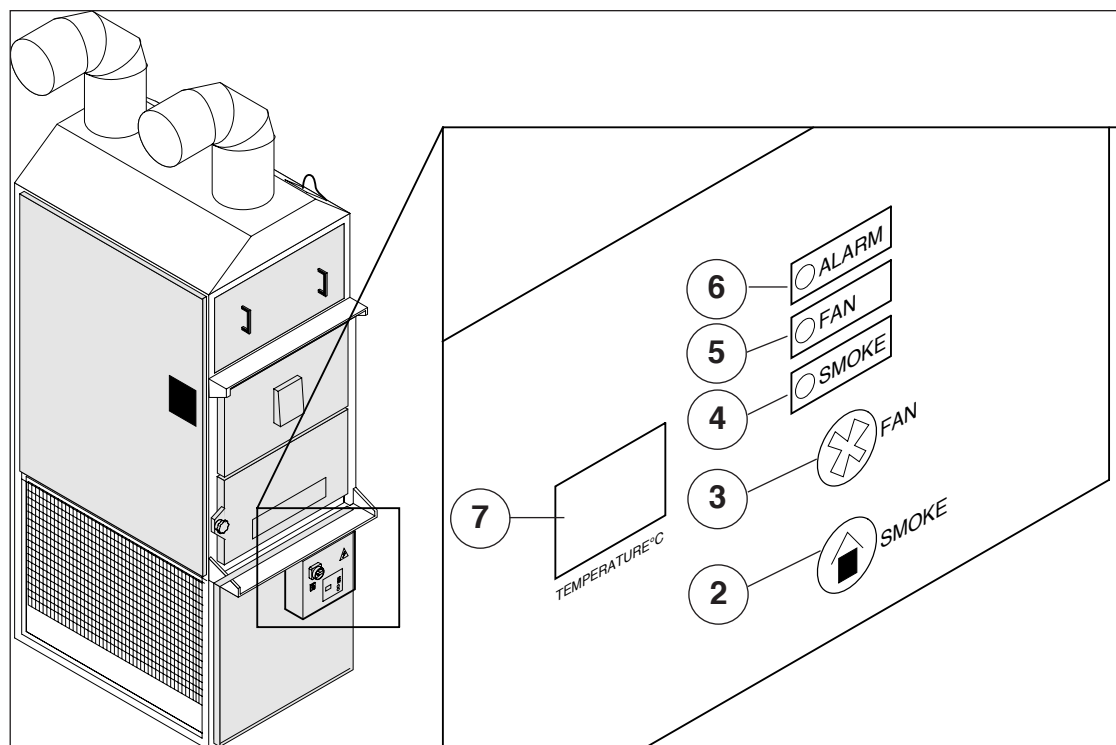


FIG.16

#### 3.1.2 CONTROLS IN THE ELECTRONIC PANEL

- 1) General switch.
- 2) fumes vent button.
- 3) air vent button.
- 4) fumes vent light (green).
- 5) air vent light (green).
- 6) alarm light (red).
- 7) temperature display.

### 3.2 STARTUP

Turn on the machine's general switch (pos.1B fig.11).

Load the fuel using the grid in the machine's upper part.

Turn on fuel loading and wait for combustion to start up.



**WARNING!**

**Do not use liquid fuel.**



**WARNING!**

**If the machine has got a fumes vent, do not turn it off during combustion.**

To adjust combustion, regulate suction power in the lower door (pos.3 in fig.13).

When temperature reaches 45°C, the air vents will activate automatically (pos.5 in fig.16), and they will automatically switch off as well when temperature drops below 41°C.

The alarm's thermostat is already set to activate at 90°C.

### 3.2 STARTUP (summer)



**IMPORTANT:** to turn on cold air circulation, press the fumes vent button (pos.3 fig.16) in absence of combustion.

### 3.4 OPERATION

The machine must only be loaded with fuel via the upper door (pos. 1 in fig.13). Fuel examples include:



- Dry wood not treated with chemicals.
- Wood chippings pressed in bundles.



**WARNING!** Do not use powdered wood, nor liquid fuel, during startup and combustion.

#### Removing ashes.

Remove ashes only after combustion has ceased, and only after temperature has dropped below 40°C, then:

- open up the two front doors (pos. 1 and 2 in fig.13).



**IMPORTANT:** the lower door will not open if the upper door is open.  
The lower door is closed with a knobbed screw.

- Empty the cinerary.
- Close the doors.



**IMPORTANT:** do not place the ashes near the vents' suction area (fig. 17).

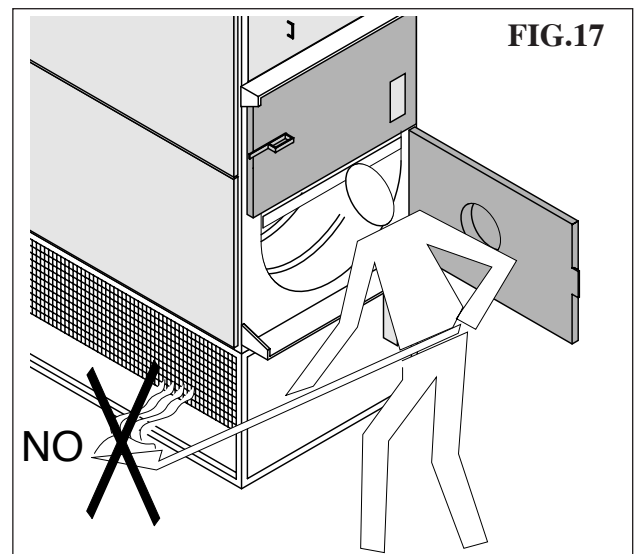


**WARNING!** Do not overload the machine. An excessive heat generated by combustion could deform the machine's structure.

When the warm air generator is on, there is a chance that the alarm will be set off. This is due to the excessive heat generated by the furnace. In this case, lower the heat generation by shutting down the air suction (pos. 3 in fig. 13), and stop loading fuel.



**WARNING!** Do not let the alarm activated for more than 2 minutes, or the wirings could be damaged.



### 3.4 REGULAR STOP

You can turn off the furnace by shutting down the air suction (pos. 3 in fig. 13)

Then, after the machine has cooled down, switch off the flue's suction and the vents (pos. 0 in fig. 11), and finally turn off the machine's general switch.



**WARNING!**  
Do not turn off the general switch before combustion has ceased and the ashes are cold.

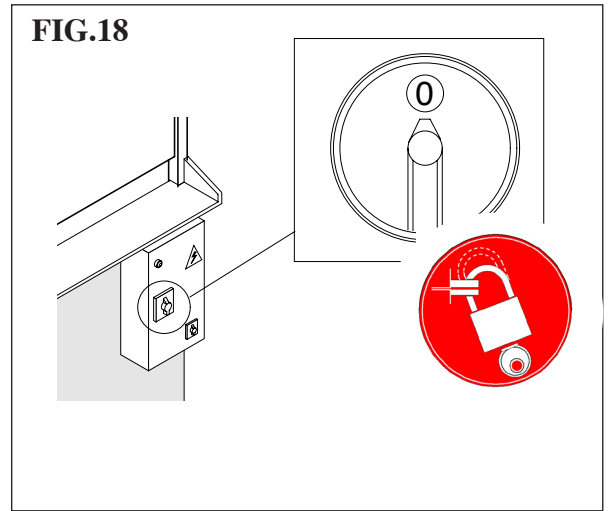
# 4 ORDINARY MAINTENANCE

## 4.1 PRELIMINARY CONTROLS



**WARNING!** Before maintenance, make sure that:

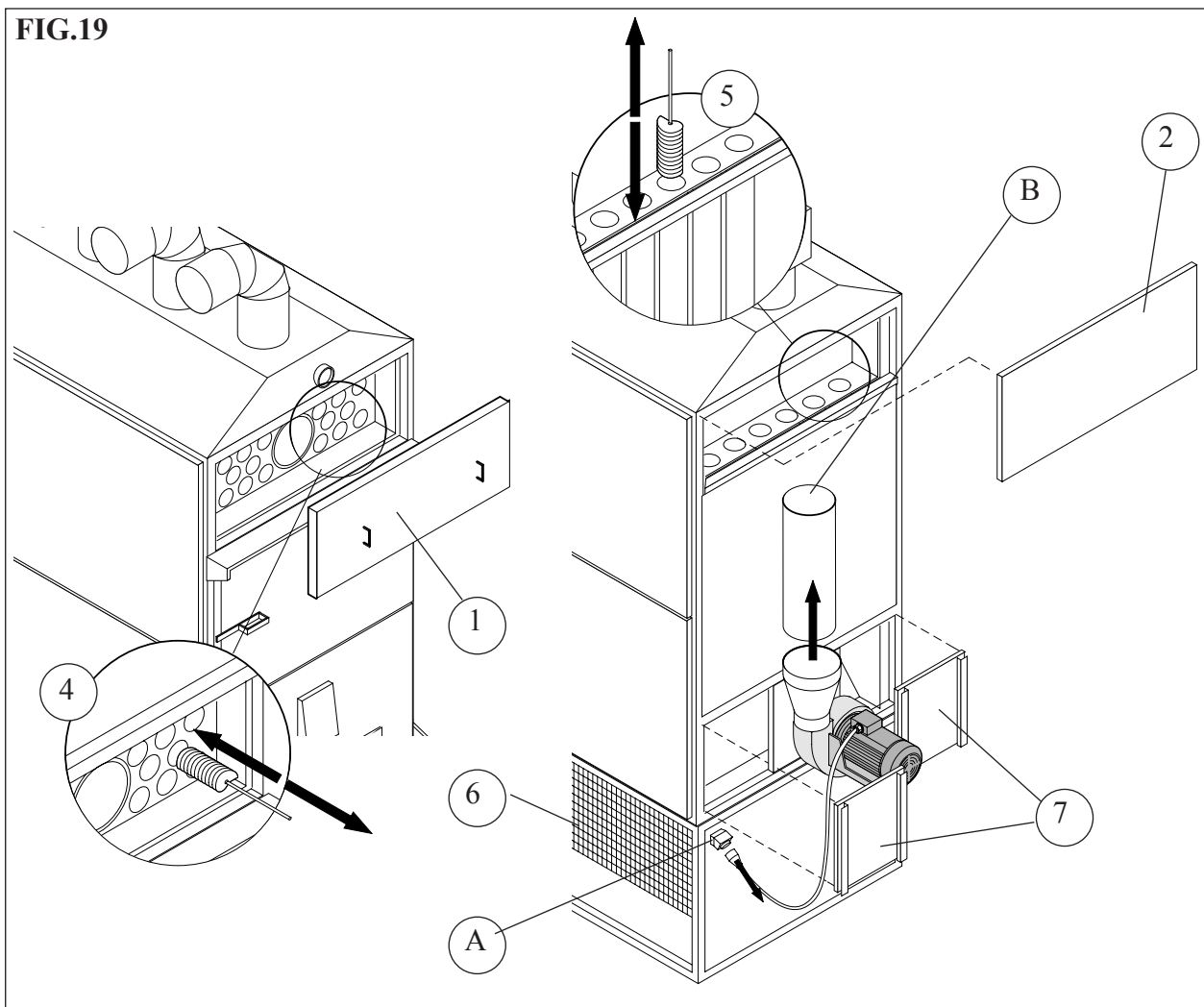
- The power grid's general switch is turned off (pos. OFF).
- The machine's general switch is on 0 (Fig. 18), that a padlock is placed on the appropriate lock, and its keys given to the safety operator.
- Make sure the machine is not powered during maintenance operations.



## 4.2 CLEANING THE WARM AIR GENERATOR



**IMPORTANT:** at season's end, clean the combustion chamber, the flue, and the heat exchanger's pipes.



### 4.2.1 WIPING OFF THE ASH

Every time the machine is stopped, the ash on the bottom of the combustion chamber must be removed

### 4.2.2 CLEANING THE FLUE

To proceed with cleaning you must:

- Unplug suction (pos. A in fig. 19).
- Unplug the flue from the suction (pos. B in fig. 19).
- Remove soot from the flue with an iron brush.
- Reassemble flue with suction.
- Plug suction.

### 4.2.3 CLEANING THE HEAT EXCHANGER

To proceed with cleaning you must:

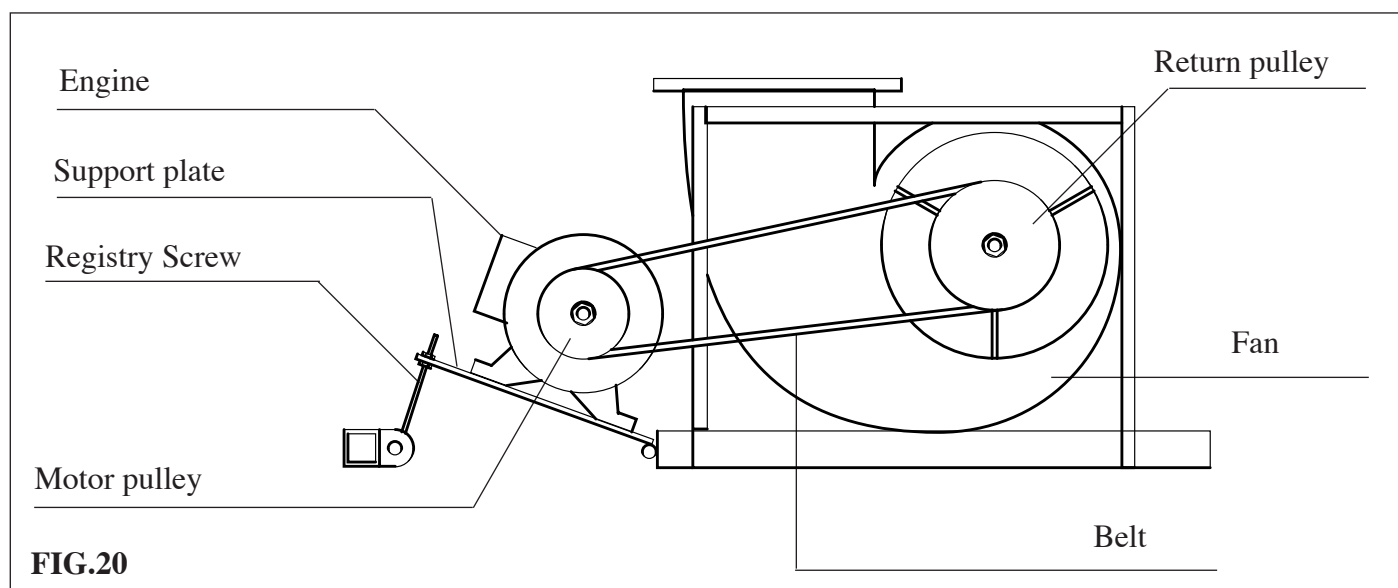
- remove back protection panel (1 in fig. 19) by unscrewing it.
- unplug suction (pos. A in fig.19).
- remove the rest of the back protection panels by unscrewing them (pos.2, 7 fig.19).
- clean the exchanger's pipes with a helix-shaped iron brush, from the front of the machine (pos. 4 in fig.19).
- do the same for the descending vertical pipes (pos.5 fig.19).
- install back the protection panels (part. 1,2 and 7 fig.19).
- plug suction (pos.A fig.19).
- plug flue with suction.

### 4.3 FANBELT STRETCHING (models F120-F240 only)

You should periodically stretch the fan belts.

To access the fan belts, remove the protection grids (part. 6 fig. 19).

- Regulate the fan belts' stretching with the registry screw (fig. 20).
- In case this doesn't work, replace the belt.
- At operations complete, replace the protection grid.

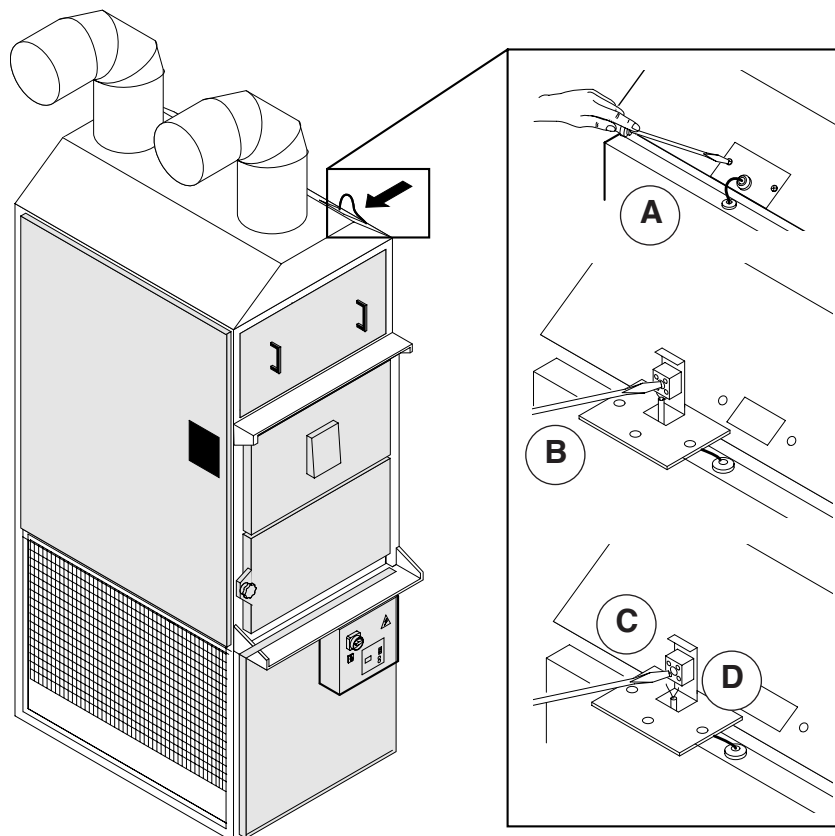


#### 4.4 REPLACING THE THERMOSTAT PROBE (model F85 SV only)

To replace the thermostat probe:

- unscrew the probe holder (pos.A fig.21);
- remove the probe holder and remove the central screw (pos.B fig.21) in the probe's lodge;
- unplug the probe's lodge by unscrewing it (pos.C and pos.D fig.21);
- replace the probe and reverse the above operations.

**FIG.21**



#### 4.5 REPLACING THE FUSE (model F85 SV only)

The fuse lies inside the electronic panel. To replace it, consult the electric plans (tav.2-tav.3).

## 5 END OF SERVICE

---



When the machine's lifetime is up, you should:

- remove all rubber parts (O-ring, gaskets, girds, etc...).
- remove all recyclable plastic components (thermoplastic parts) and separate them from the unrecyclable ones (thermo-resistant parts).
- remove all copper parts (cables).

Dispose of the different materials according to your Country's laws.

## 6 ACOUSTIC POLLUTION

---



The sound emission levels for the models F 85 F120 and F240 have been tested according to the ISO 11202 rules, and the following maximum sound thresholds have been recorded:

MODEL	L <sub>pA</sub> (dB(A))		
	F85	F 120	F 240
Machine with only fumes vent turned on	< 60	< 60	< 60
Machine with only warm air vent	66,6	70,6	73,4
Machine with both vents turned on	66,7	70,9	74,1

**L<sub>pA</sub>:** Max sound pressure level recorded on the operator's work station

# **7 SPARE PARTS CATALOGUE**

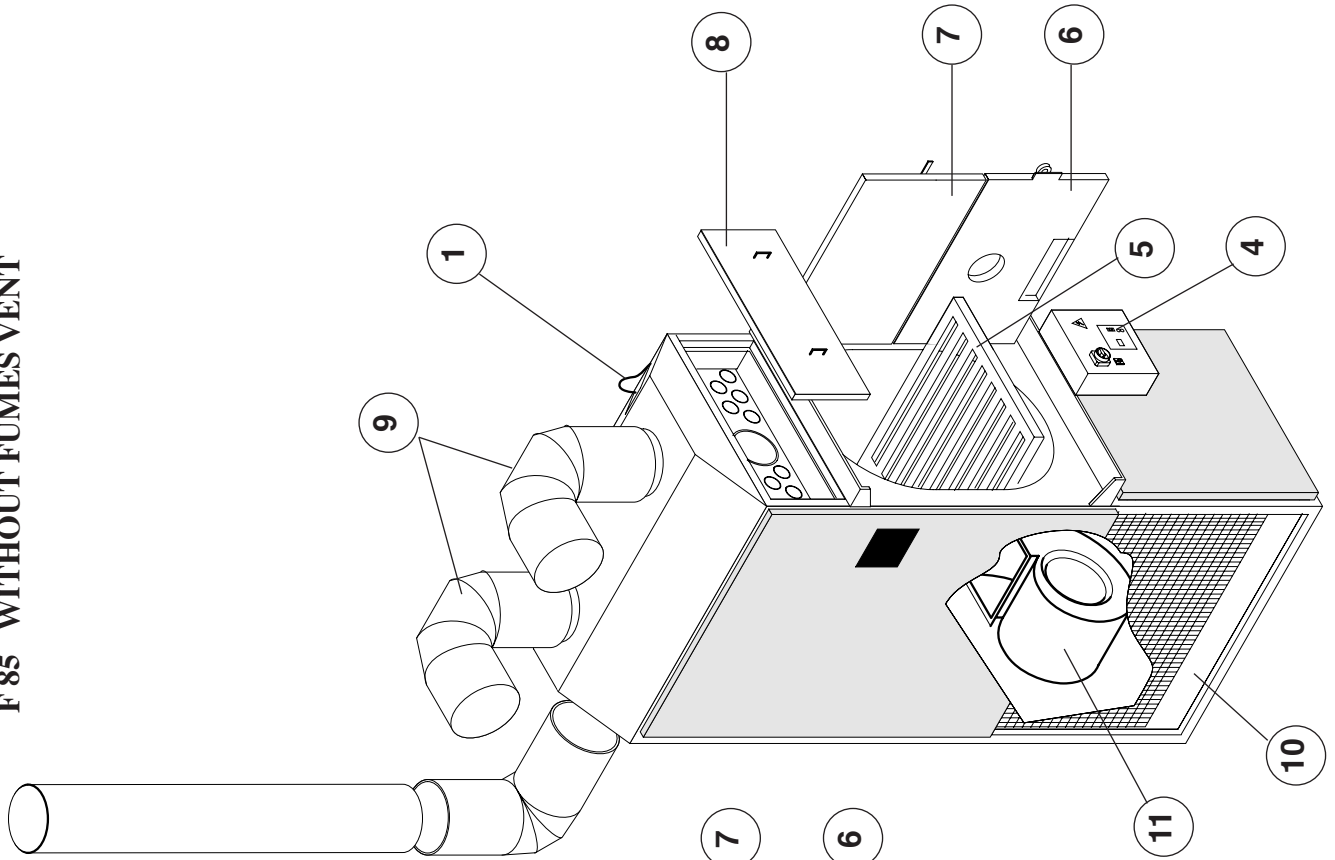
## **HOW TO ORDER SPARE PARTS**

To order spare parts, the following specifications must be presented:

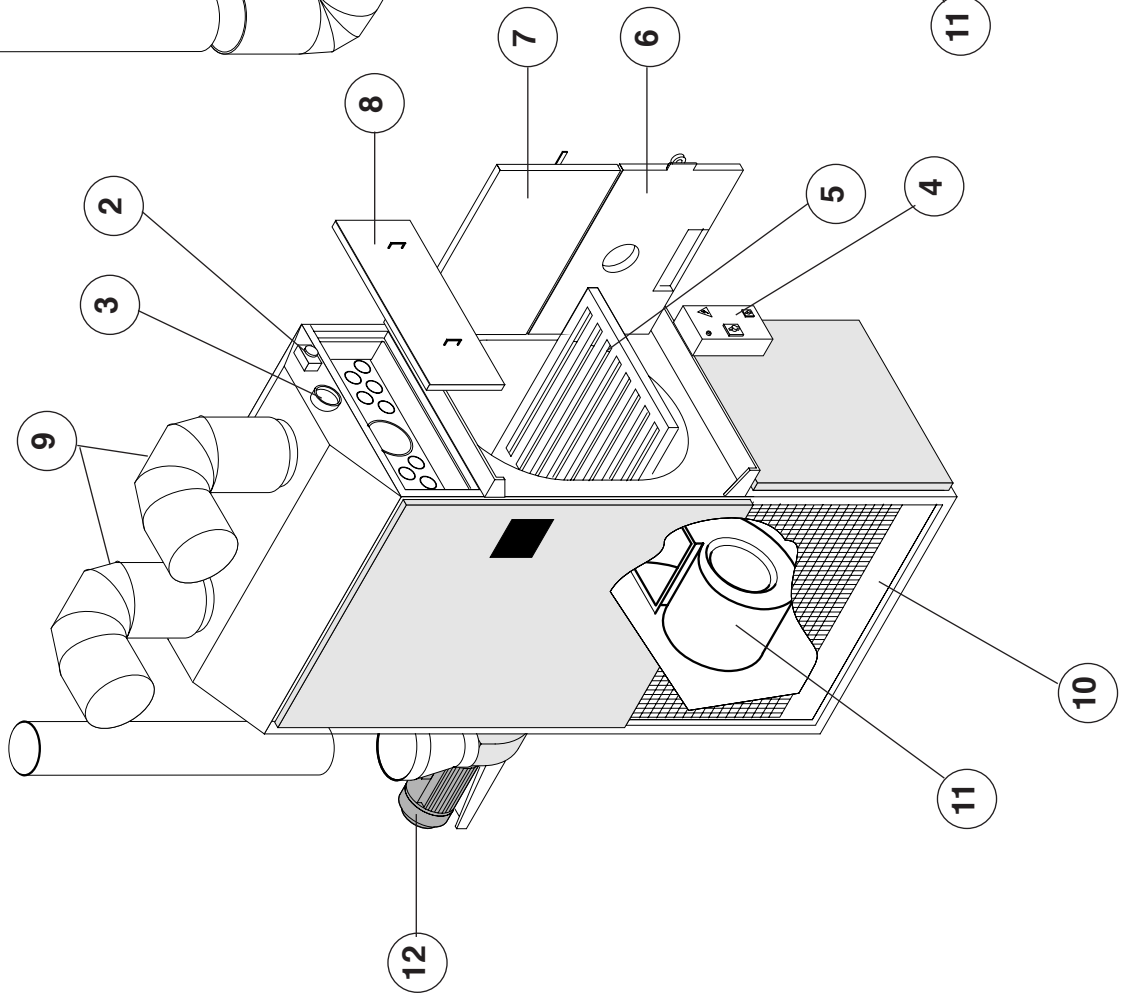
- Machine type (model, serial number, year of manufacturing.
- Spare part description.
- Quantity needed.
- Any indications the spare part might have engraved on a plate.

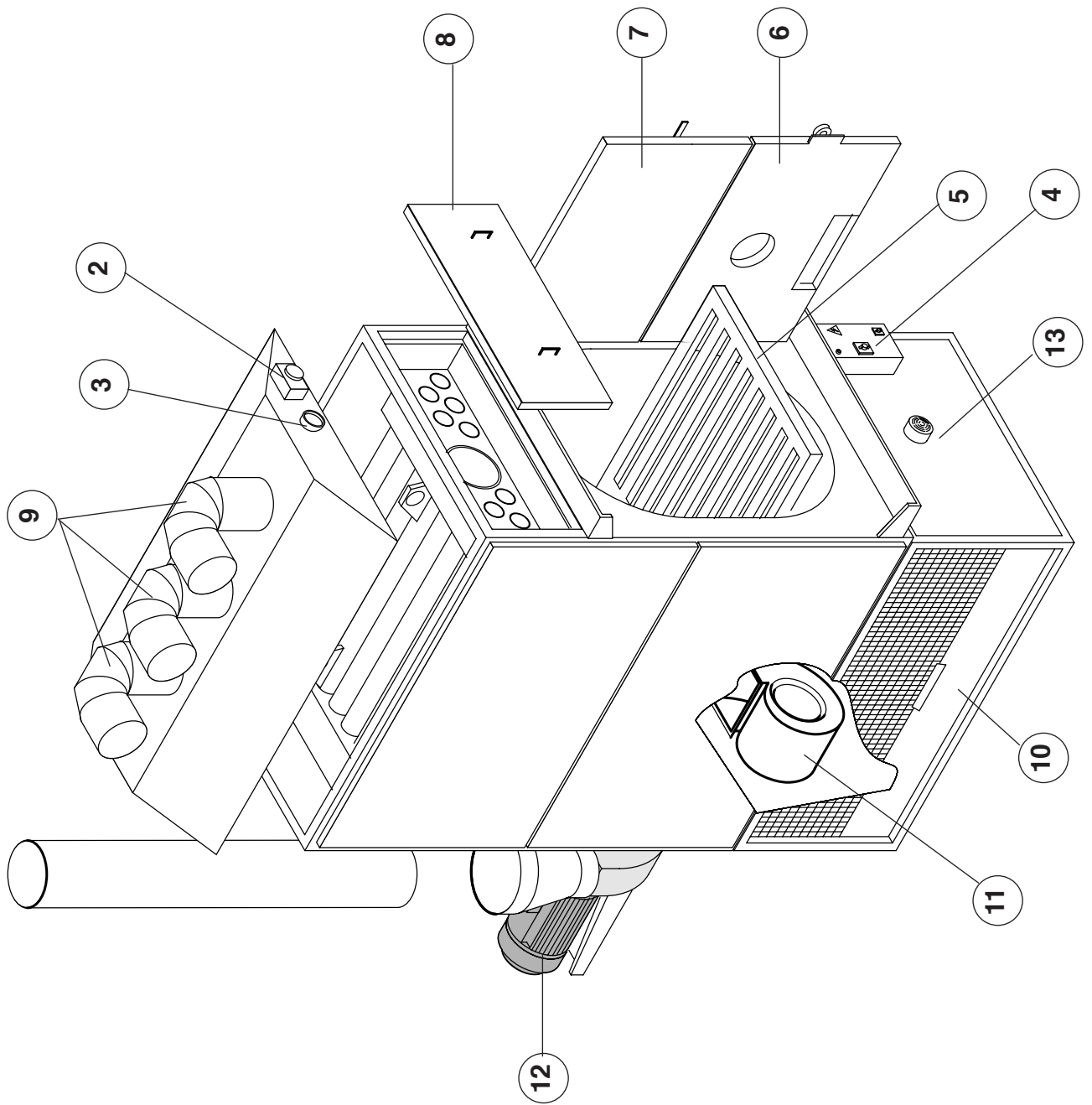
<b>N° DESCRIZIONE</b>	<b>N° DESCRIPTION</b>	<b>N° BEZEICHNUNG</b>
1 SONDA TEMPERATURA ARIA	1 AIR TEMPERATURE SENSOR	1 TEMPERATURFÜHLER
2 TERMOSTATO ACCENSIONE ARIA	2 AIR ACTIVATION THERMOSTAT	2 EINSCHALTHERMOSTAT LUFT
3 TERMOMETRO INDICATORE	3 THERMOMETER INDICATOR	3 ANZEIGETHERMOMETER
4 QUADRO ELETTRICO	4 ELECTRIC CONTROL PANEL	4 SCHALTAFEL
5 GRIGLIA DI APPOGGIO SCARTI	5 REJECTED MATERIALSUPPORT GRILLE	5 GITTER ABFALLABLAGE
6 SPORTELLINO DI CONTROLLO ESTRAZIONE CENERI	6 ASH EXTRACTION CONTROL PANEL	6 KONTROLLTÜR ASCHEENTNAHME
7 SPORTELLINO CARICAMENTO MANUALE	7 MANUAL LOADING PANEL	7 TÜR ZUM MANUELLEN BELADEN
8 SPORTELLINO PULIZIA TUBI	8 PIPE CLEANING PANEL	8 TÜR ZUR ROHRREINIGUNG
9 BOCCHE DI MANDATA ARIA CALDA	9 HOT AIR OUTLET OPENINGS	9 ZULUFTSTUTZEN WARME LUFT
10 GRATA DI ASPIRAZIONE	10 SUCTION GRATING	10 SAUGGITTER
11 GRUPPO DI ASPIRAZIONE ARIA	11 AIR SUCTION ASSEMBLY	11 BAUGRUPPE LUFTANSAUGUNG
12 GRUPPO DI ASPIRAZIONE FUMI E SPORTELLINO PER CENERE	12 SMOKE SUCTION ASSEMBLY AND ASH PANEL	12 BAUGRUPPE DAMPFABSAUGUNG UND ASCHETÜR
13 SIRENE DI ALLARME	13 ALARM SIREN	13 ALARMSIRENE

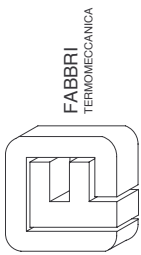
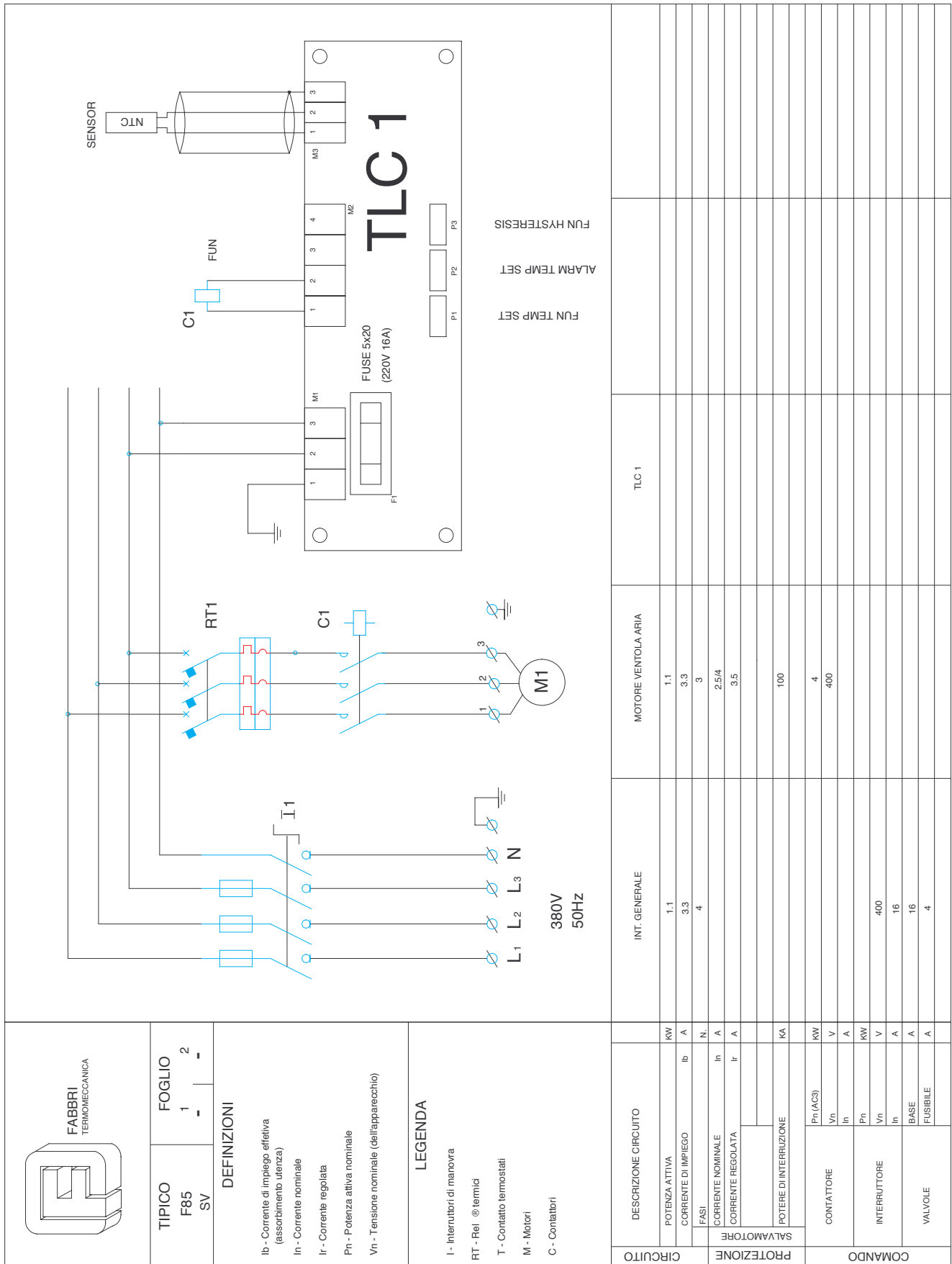
**F 85 WITHOUT FUMES VENT**



**F 85 WITH FUMES VENT**







FABBRI  
TERMOMECCANICA

TIPO F85 SV

FOGLIO 1 - 2

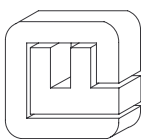
DEFINIZIONI

- Ib - Corrente di impiego effettiva (assorbimento utenza)
- In - Corrente nominale
- Ir - Corrente regolata
- Ph - Potenza attiva nominale
- Vn - Tensione nominale (dell'apparecchio)

LEGENDA

- I - Interruttori di manovra
- RT - Rel @ termici
- T - Contatto termostati
- M - Motori
- C - Contattori

DESCRIZIONE CIRCUITO	INT. GENERALE	MOTORE VENTOLA ARIA	TLC 1	FUN TEMP SET	ALARM TEMP SET	FUN HYSTERESIS
POTENZA ATTIVA	1.1	1.1				
CORRENTE DI IMPIEGO	3.3	3.3				
FASI	4	3				
CORRENTE NOMINALE		2.5/4				
CORRENTE REGOLATA		3.5				
POTERE DI INTERRUZIONE		100				
SAVAMOTORE						
Ph (AC3)		4				
Vn		400				
In						
Ph						
Vn	400					
In	16					
BASE	16					
FUSIBILE	4					



FABRI  
TERMOMECCANICA

TIPO	FOGLIO
F85	2
SV	2

**DEFINIZIONI**

- Ib - Corrente di impiego effettiva (assorbimento utenza)
- In - Corrente nominale
- Ir - Corrente regolata
- Ph - Potenza attiva nominale
- Vn - Tensione nominale (dell'apparecchio)

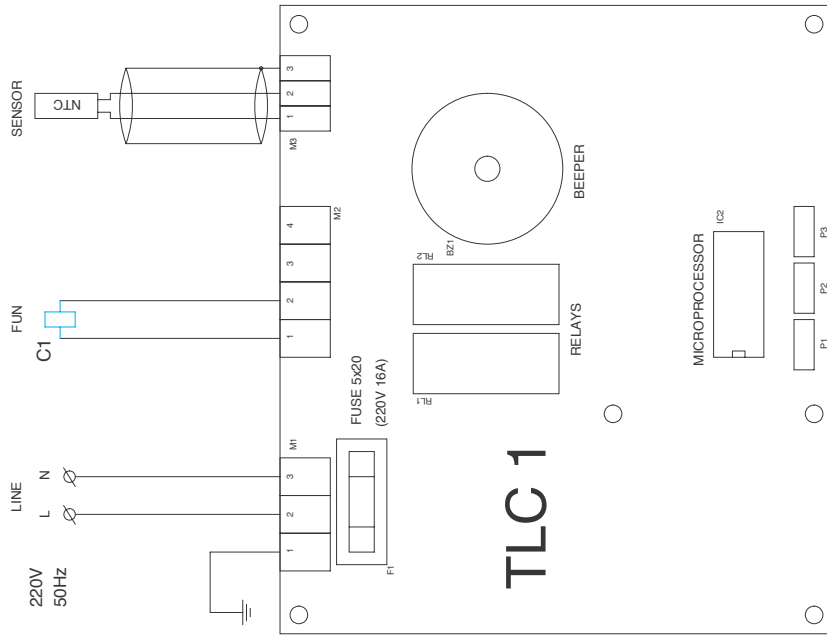
**LEGENDA**

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- RT - Rel @ termici
- T - Contatto termostati
- M - Motori
- C - Contattori

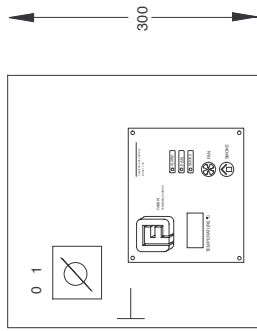
**NOTE**

- I termostati indicati (T) i cui contatti sono rappresentati con numeri diversi, o appartenenti allo stesso termostato munito di diverse soglie di intervento o a termostati singoli (uno per ogni numero).
  - Le dimensioni del fronte del quadro rappresentate sono approssimative.
  - Il grado di protezione del quadro ed i relativi collegamenti alle singole apparecchiature del forno non devono essere inferiori ad IP44.
  - Le maniglie dell'int. gen. sono interbloccate con l'antina. Il quadro si pu aprire solo ad int. aperto.
- N.B.
- In fase di installazione l'Acquirente dovr proteggere il generatore d'aria calda dai "Contatti Indiretti" in conformit. alle Vigenti norme CEI. Si consiglia l'uso di un int. diff. con soglia di intervento da 30mA che protegga la linea di alimentazione generale.

**COLLEGAMENTI TLC 1**



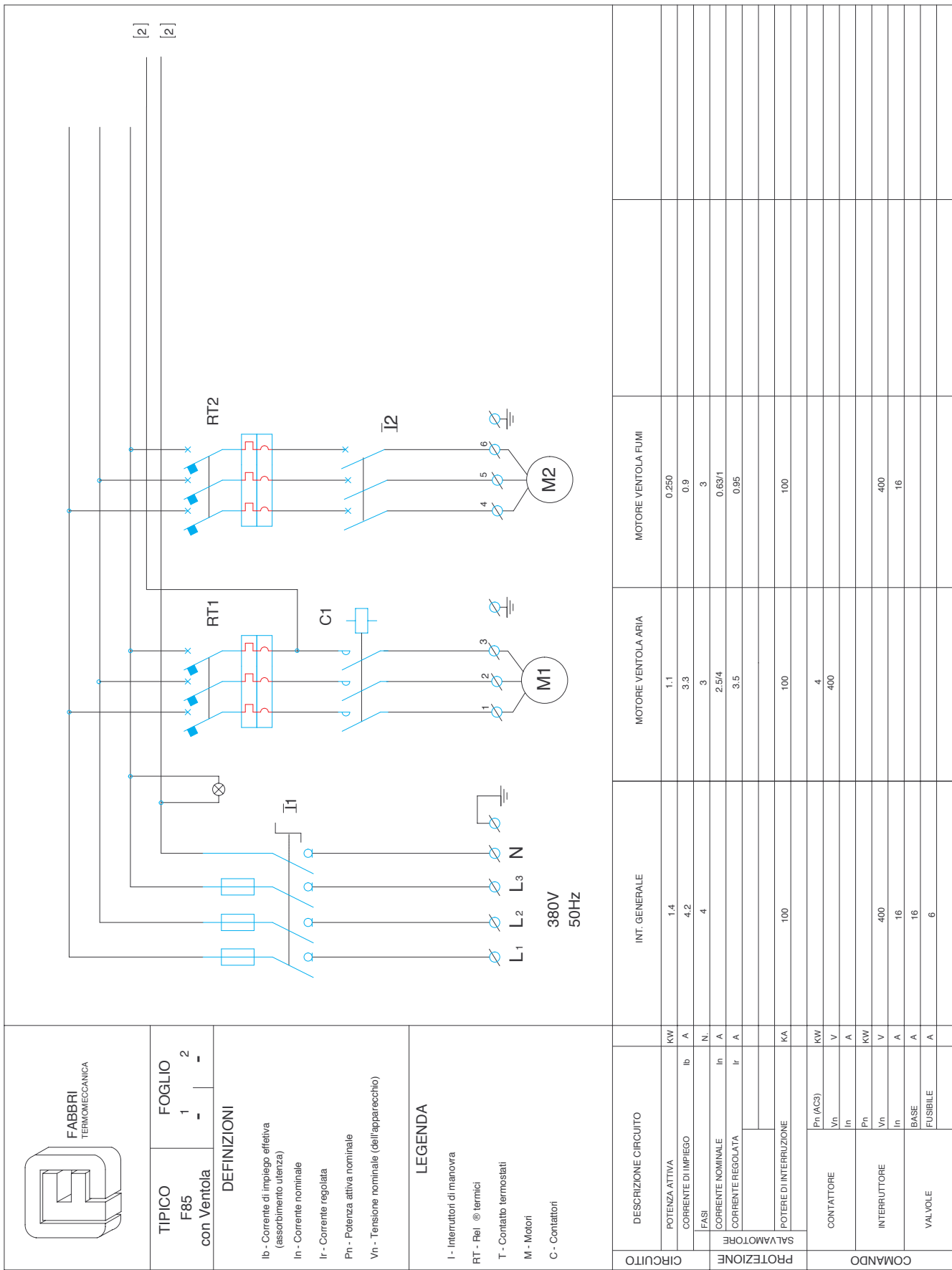
**FRONTE QUADRO**



**MORSETTIERA**



FUN TEMP SET  
ALARM TEMP SET  
FUN HYSTERESIS



**TIPICO**  
F85  
con Ventola

**FOGLIO**  
1 - 2

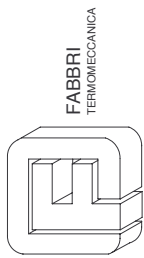
**DEFINIZIONI**

Ib - Corrente di impiego effettiva (assorbimento utenze)  
In - Corrente nominale  
Ir - Corrente regolata  
Pn - Potenza attiva nominale  
Vn - Tensione nominale (dell'apparecchio)

**LEGENDA**

I - Interruttori di manovra  
RT - Rel @ termici  
T - Contatto termostati  
M - Motori  
C - Contattori

CIRCUITO	DESCRIZIONE CIRCUITO	INT. GENERALE	MOTORE VENTOLA ARIA	MOTORE VENTOLA FUMI	
CIRCUITO	POTENZA ATTIVA	KW 1,4	1,1	0,250	
	CORRENTE DI IMPIEGO	A 4,2	3,3	0,9	
	FASI	N, 4	3	3	
	CORRENTE NOMINALE	In A	2,5/4	0,63/1	
PROTEZIONE	CORRENTE REGOLATA	Ir A	3,5	0,95	
	POTERE DI INTERRUZIONE	KA 100	100	100	
COMANDO	CONTATTORE	Ph (ACS) KW	4		
		Vn V	400		
		In A			
	INTERRUTTORE	Ph KW			
		Vn V	400		400
	VALVOLE	In A	16		16
BASE FLUSIBILE A		16			



TIPICO  
F85  
con Ventola

FOGLIO  
2 - 2

DEFINIZIONI

- lb - Corrente di impiego effettiva (assorbimento utenza)
- ln - Corrente nominale
- lr - Corrente regolata
- Pn - Potenza attiva nominale
- Vn - Tensione nominale (dell'apparecchio)

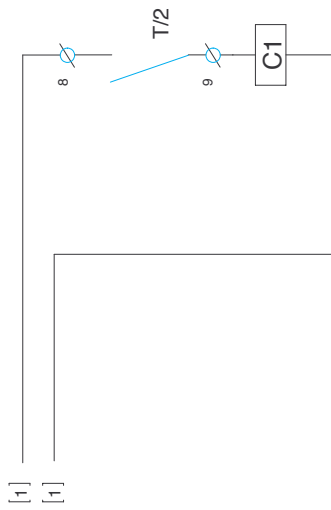
LEGENDA

- I - Interruttori di manovra
- RT - Rel @ termici
- T - Contatto termostati
- M - Motori
- C - Contattori

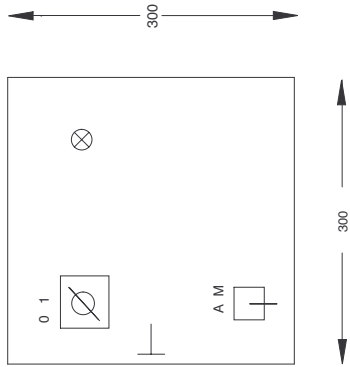
NOTE

- I termostati indicati (T) i cui contatti sono rappresentati con numeri diversi, o appartengono allo stesso termostato munito di diverse soglie di intervento o a termostati singoli (uno per ogni numero).
  - Le dimensioni del fronte del quadro rappresentate sono approssimative.
  - Il grado di protezione del quadro ed i relativi collegamenti alle singole apparecchiature del forno non devono essere inferiori ad IP44.
  - Le maniglie dell'int. gen. sono interbloccate con l'antenna. Il quadro si pu aprire solo ad int. aperto.
- N.B.
- In fase di installazione l'Acquirente dovr proteggere il generatore d'aria calda dai "Contatti Indiretti" in conformit alle Vigenti norme CEI. Si consiglia l'uso di un int. difr. con soglia di intervento da 30mA che protegga la linea di alimentazione generale.

COLLEGAMENTI AUX.



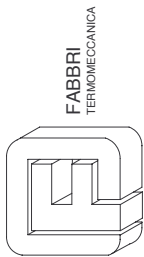
FRONTE QUADRO



MORSETTIERA

⊥	1	2	3	4	5	6	7	8
	U	V	W	U	V	W		
	Alla Ventola Aria			Alla Ventola Fumi			Termost. Ventola	





TIPICO  
F120

FOGLIO  
2 - 2

DEFINIZIONI

- Ib - Corrente di impiego effettiva (assorbimento utenza)
- In - Corrente nominale
- Ir - Corrente regolata
- Ph - Potenza attiva nominale
- Vn - Tensione nominale (dell'apparecchio)

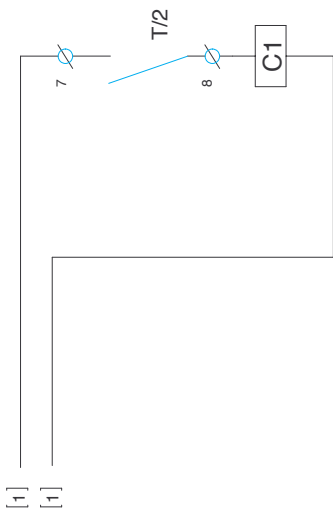
LEGENDA

- I - Interruttori di manovra
- RT - Rel @ termici
- T - Contatto termostati
- M - Motori
- C - Contattori

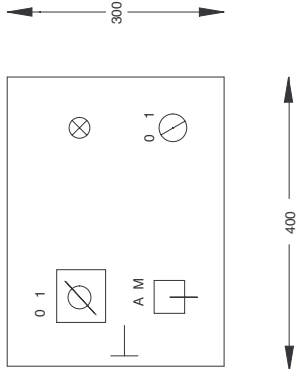
NOTE

- I termostati indicati (T) i cui contatti sono rappresentati con numeri diversi, o appartengono allo stesso termostato munito di diverse soglie di intervento o a termostati singoli (uno per ogni numero).
  - Le dimensioni del fronte del quadro rappresentate sono approssimative.
  - Il grado di protezione del quadro ed i relativi collegamenti alle singole apparecchiature del forno non devono essere inferiori ad IP44.
  - Le maniglie dell'int. gen. sono interbloccate con l'antenna. Il quadro si pu aprire solo ad int. aperto.
- N.B.
- In fase di installazione l'Acquirente dovr proteggere il generatore d'aria calda dai "Contatti Indiretti" in conformit con la Vigenit norme CEI. Si consiglia l'uso di un int. diff. con soglia di intervento da 30mA che protegga la linea di alimentazione generale.

COLLEGAMENTI AUX.



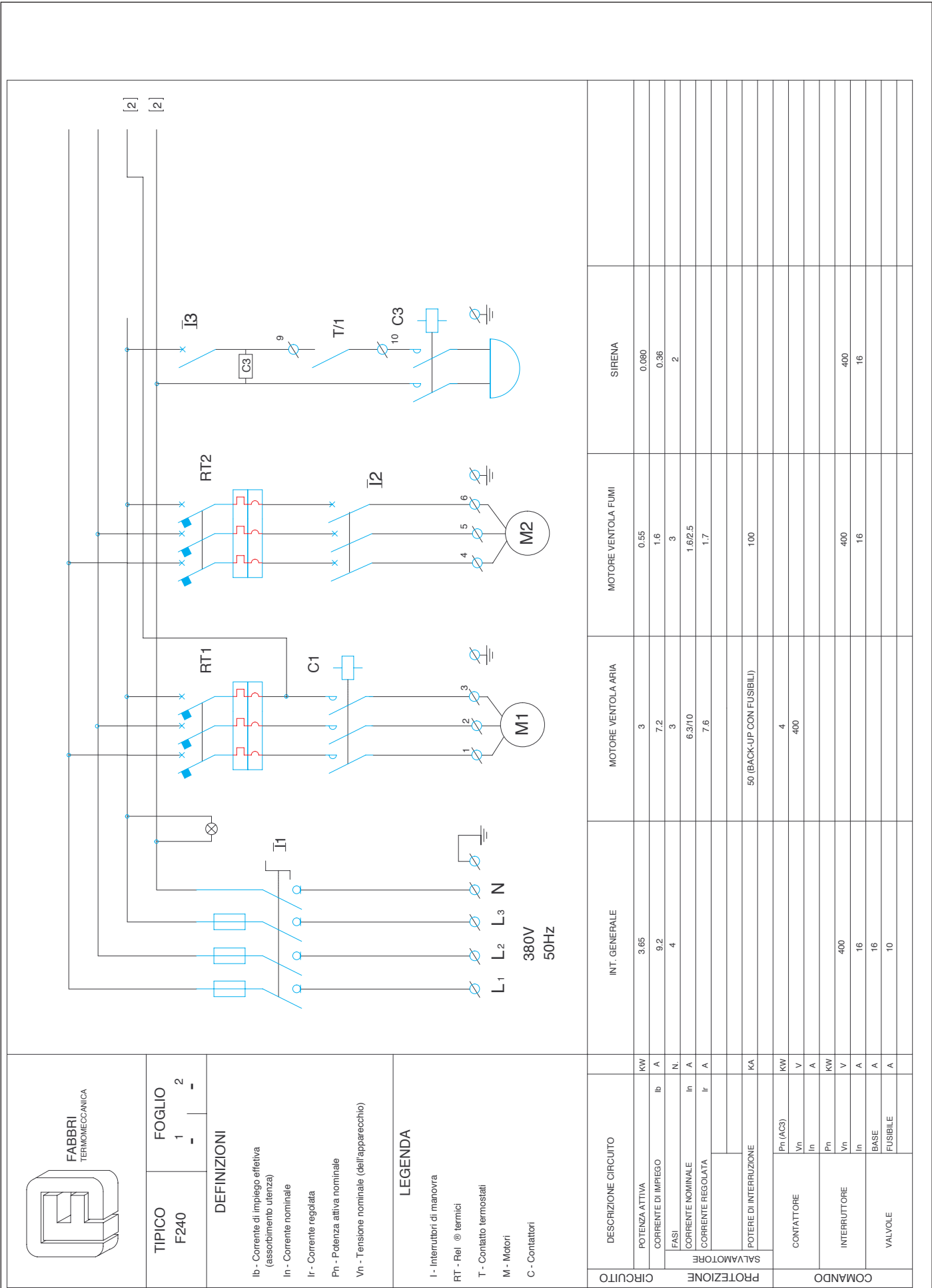
FRONTE QUADRO



MORSETTIERA

⏏	1	2	3	4	5	6	7	8	9	10
	U	V	W	U	V	W	U	V	W	

Alia Ventola Aria	Alia Ventola Fumi	Termost. Ventola	Termost. Allarme
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FABBRI  
TERMO-MECCANICA

TIPO F240

FOGLIO 1 - 2

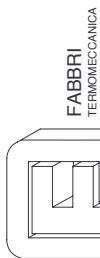
DEFINIZIONI

- lb - Corrente di impiego effettiva (assorbimento lieve)
- In - Corrente nominale
- Ir - Corrente regolata
- Pn - Potenza attiva nominale
- Vn - Tensione nominale (dell'apparecchio)

LEGENDA

- I - Interruttori di manovra
- RT - Rel. ® termici
- T - Contatto termostati
- M - Motori
- C - Contattori

CIRCUITO	DESCRIZIONE CIRCUITO	INT. GENERALE	MOTORE VENTOLA ARIA	MOTORE VENTOLA FUMI	SIRENA
CIRCUITO	POTENZA ATTIVA	3.65	3	0.55	0.080
	CORRENTE DI IMPIEGO	9.2	7.2	1.6	0.36
	FASI	4	3	3	2
	CORRENTE NOMINALE		6.3/10	1.6/2.5	
PROTEZIONE	CORRENTE REGOLATA		7.6	1.7	
	POTERE DI INTERRUZIONE		50 (BACK-UP CON FUSIBILI)	100	
COMANDO	Pn (AC3)		4		
	Vn		400		
	In				
	Pn				
COMANDO	Vn	400		400	400
	In	16		16	16
	BASE	16			
	FUSIBILE	10			



**TIPICO**  
F240

**FOGLIO**  
2 - 2

**DEFINIZIONI**

- lb - Corrente di impiego effettiva (assorbimento utenza)
- In - Corrente nominale
- Ir - Corrente regolata
- Ph - Potenza attiva nominale
- Vn - Tensione nominale (dell'apparecchio)

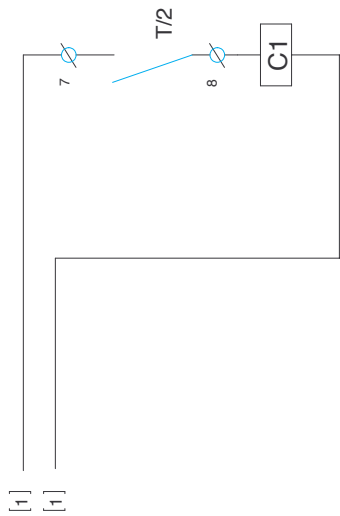
**LEGENDA**

- I - Interruttori di manovra
- RT - Rel @ termici
- T - Contatto termostati
- M - Motori
- C - Contattori

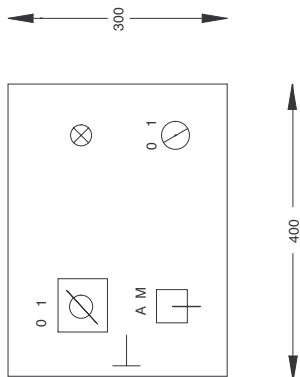
**NOTE**

- I termostati indicati (T) i cui contatti sono rappresentati con numeri diversi, o appartengono allo stesso termostato munito di diverse soglie di intervento o a termostati singoli (uno per ogni numero).
  - Le dimensioni del fronte del quadro rappresentate sono approssimative.
  - Il grado di protezione del quadro ed i relativi collegamenti alle singole apparecchiature del forno non devono essere inferiori ad IP44.
  - Le maniglie dell'int. gen. sono interbloccate con l'antenna. Il quadro si pu' aprire solo ad int. aperto.
- N.B.**
- In fase di installazione l'Acquirente dovr' proteggere il generatore d'aria calda dai "Contatti Indiretti" in conformita' alle Vigenti norme CEI. Si consiglia l'uso di un int. dif. con soglia di intervento da 30mA che protegga la linea di alimentazione generale.

**COLLEGAMENTI AUX.**



**FRONTE QUADRO**



**MORSETTIERA**

⊥	1	2	3	4	5	6	7	8	9	10
	U	V	W	U	V	W	U	V	W	

⊥	Alla Ventola Aria	Alla Ventola Fumi	Alla Ventola Termost. Ventola	Termost. Allarme
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