



modelli:

- **CompactMatic 32**
- **CompactMatic 50**

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## “EC” DECLARATION OF CONFORMITY – COMPACT MATIC 32

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### DICHIARAZIONE DI CONFORMITA' DECLARATION OF CONFORMITY

La THERMOROSSI S.P.A., VIA GRUMOLO N° 4 36011 ARSIERO (VI), sotto la sua esclusiva responsabilità DICHIARA che l'apparecchiatura descritta in appresso:  
*DECLARES that the product:*

Descrizione <i>Description</i>	Caldia a pellets <i>Pellet boiler</i>
Marchio <i>Trademark</i>	THERMOROSSI
Modello <i>Model</i>	COMPACTMATIC 32

è conforme alle disposizioni legislative che traspongono le seguenti Direttive:

- 2004/108/CE (Direttiva EMC)
- 2006/95/CE (Direttiva Bassa Tensione)
- 2006/42/CE (Direttiva Macchine)

*is in accordance with the following Directives:*

- 2004/108/EC Directive (EMC Directive)
- 2006/95/EC Directive (Low Voltage Directive)
- 2006/42/EC Directive (Machinery Directive)

e che sono state applicate tutte le norme e/o specifiche tecniche di seguito indicate  
*and that all the following standards have been applied*

EN 55014-1	EN 60335-1	PrEN 303-5:2012
EN 55014-2	EN 60335-2-102	
EN 61000-3-2	EN 62233	
EN 61000-3-3		

Il fabbricante inoltre dichiara che il fascicolo tecnico della costruzione è costituito e custodito presso THERMOROSSI S.P.A., VIA GRUMOLO N° 4 36011 ARSIERO (VI)  
The manufacturer also declares that the technical construction file is kept by THERMOROSSI S.P.A., VIA GRUMOLO N° 4 36011 ARSIERO (VI)

Ultime due cifre dell'anno in cui è affissa la marcatura CE      12  
*Last two figures of the year of the CE marking*

Luogo      Arsiero  
*Place*

Data      03/07/2012  
*Date*

Firma  
*Sign*  
(nome e funzione)  
*(name and title)*

  
THERMOROSSI S.P.A.  
Un Amministratore

1/1

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## “EC” DECLARATION OF CONFORMITY – COMPACT MATIC 50

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### DICHIARAZIONE DI CONFORMITA' DECLARATION OF CONFORMITY

La THERMOROSSI S.P.A., VIA GRUMOLO N° 4 36011 ARSIERO (VI), sotto la sua esclusiva responsabilità DICHIARA che l'apparecchiatura descritta in appresso:  
*DECLARES that the product:*

Descrizione <i>Description</i>	Caldaia a pellets <i>Pellet boiler</i>
Marchio <i>Trademark</i>	THERMOROSSI
Modello <i>Model</i>	COMPACTMATIC 50

è conforme alle disposizioni legislative che traspongono le seguenti Direttive:

- 2004/108/CE (Direttiva EMC)
- 2006/95/CE (Direttiva Bassa Tensione)
- 2006/42/CE (Direttiva Macchine)

*is in accordance with the following Directives:*

- 2004/108/EC Directive (EMC Directive)
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EN 61000-3-3		

Il fabbricante inoltre dichiara che il fascicolo tecnico della costruzione è costituito e custodito presso THERMOROSSI S.P.A., VIA GRUMOLO N° 4 36011 ARSIERO (VI)  
The manufacturer also declares that the technical construction file is kept by THERMOROSSI S.P.A., VIA GRUMOLO N° 4 36011 ARSIERO (VI)

Ultime due cifre dell'anno in cui è affissa la marcatura CE      12  
*Last two figures of the year of the CE marking*

Luogo      Arsiero  
*Place*

Data      03/07/2012  
*Date*

Firma  
*Sign*  
(nome e funzione)  
(name and title)



# 1 - INTRODUCTION

## 1.1 GENERAL GUIDELINES

This installation, use and maintenance guide is an integral and essential part of the product and must be kept by the user. Before commencing with the installation, use and maintenance of the product, carefully read all the instructions contained in this booklet. All local, national and European regulations regarding the installation and use of the appliance must be met. The Manufacturer recommends carrying out all the maintenance operations described in this manual.

This appliance must only be used as intended by the manufacturer. Any other use is considered incorrect and therefore hazardous; consequently, the user shall be totally liable for the product if used improperly. Installation, maintenance and repairs must be carried out by professionally qualified personnel, professionally certified according to Decree no. 37 of 22 January 2008 and in compliance with current regulations and in accordance with the instructions provided by the manufacturer of the appliance. In case of repairs only original spare parts supplied by the manufacturer must be used. Incorrect installation or poor maintenance could injure or damage people, animals or things; in this case the manufacturer shall be relieved of all responsibility.

Before beginning any cleaning or maintenance work switch off the appliance: turn the switch on the control panel to off and disconnect the electric cable from the power outlet or turn off the switch. The product must be installed in locations suitable for fire-fighting and furnished with all the services (power and outlets) which the appliance requires for a correct and safe operation. Any repairs or actions carried out on any systems, components or internal parts of the appliance, or on any of the accessories supplied with it, that are not specifically authorised by Thermorossi S.p.A, will automatically void the warranty and the manufacturer's responsibility, pursuant to D.P.R. 224 of 24/05/1988, art. 6/b.

Keep this manual in a safe place that is easily accessible to all users; if the manual is lost or deteriorated contact the manufacturer for a replacement copy. If the appliance is sold or transferred to another user ensure that the guide is handed over with it.

*Thermorossi S.p.A. retains copyright on these service instructions. These instructions may not be reproduced or communicated to third parties or used in any other way without the necessary authorisation.*

## 1.2 SAFETY GUIDELINES



### PERSONAL INJURY

This safety symbol identifies important messages throughout the manual. Read the information marked by this symbol carefully as non-observance of this message can cause serious injury to persons using the appliance.



### DAMAGE TO PROPERTY

This safety symbol identifies messages or instructions that are fundamental for the generator to function well. To avoid serious damage to the appliance adhere strictly to these instructions.



### INFORMATION

This symbol indicates important instructions for good functioning of the generator. If this information is not correctly observed, the performance of the appliance will not be satisfactory.

### 1.3.1 RECOMMENDATIONS



Before using the appliance, carefully read every section of this instruction manual as knowledge of the information and the regulations contained in it are essential for a correct use of the appliance.

The entire operation concerning the connection of the electric panel must be carried out by expert personnel; no responsibility will be accepted for damages, even to third parties, if the instructions for installation, use and maintenance of the appliance are not followed scrupulously. Modifications made to the appliance by the user or on his behalf, must be considered to be under his complete responsibility. The user is responsible for all the operations required for the maintenance of the appliance before and during its use.

### 1.3.2 GENERAL WARNINGS



Caution: the appliance must be connected to a system provided with a PE conductor (in compliance with the specifications of 2006/95/EC, concerning low voltage equipment). Before installing the appliance check the efficiency of the earth circuit of the power supply system.

Caution: the power supply line must have a section which is suitable for the power of the equipment. The cable section must in any case be no less than 1.5 mm<sup>2</sup>. The boiler must be powered with 230 V voltage and 50 Hz. Voltage variations greater than 10% of the nominal value can cause irregular operation or damage the electrical device. Position the appliance so that the electric power outlet in the room is easily accessible. Ensure that a suitable differential switch is installed upstream from the equipment.

Your appliance has obtained the CE marking and has been made to run for 1 hour to check that it functions correctly.

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The product must not be used by children, by persons with physical or mental impairments, by persons who are not familiar with the instructions for use and maintenance of the product (the instructions are found in this booklet).

**CAUTION:** Before each use make sure that the burner is clean and positioned correctly in its lodging, check that the ash pans are clean and shut tight and check that the firebox door is locked.

**CAUTION:** the door must always remain shut tight when the heater is operating. It is strictly forbidden to open the door while the appliance is in operation. While the appliance is in operation the smoke exhaust pipes and some parts of the appliance itself can reach extremely high temperatures: do not touch them! Do not expose your body to hot air for long, do not overheat the room in which the appliance is installed, as these actions could cause health problems. Do not expose plants or animals directly to the hot air flow as this could have noxious effects on them. It is strictly forbidden to use any type of fuel (liquid, solid...) to light the appliance: the appliance must light up automatically as designed and described in this installation, use and maintenance booklet. In this regard, it is strictly prohibited to pour pellets (or other material) directly into the brazier. Do not place non-heat resistant or inflammable or combustible objects in the vicinity of the appliance: keep them at a suitable distance. Do not place wet clothing to dry on the appliance. When using a clothes horse, keep at a suitable distance. It is strictly prohibited to disconnect the appliance from the electrical power mains.



Warning: do not wet the appliance and do not touch the electrical parts with wet hands. Never vacuum hot ash: this could damage the vacuum device. All the cleaning operations described in this manual must be carried out when the appliance is cold.



Caution! Warning for Swiss users

Refer to the local cantonal regulations imposed by the Fire Department (Mandatory signalling and safety distances ) and the Note concerning installation of heaters issued by the Association of Cantonal Fire Agencies (VKF - AEAI).



**CAUTION:** it is mandatory to earth the boiler. If this instruction is not observed serious damage, which is not covered by warranty, will result to the body of the generator. Have an electrician check the earthing. There must be no electric potential (Volts) between the earth of the generator and the actual earth of the plant. To prevent electrochemical corrosion of the boiler body do not use galvanised pipes and fittings. Dedicated ground wires must be used to ground all other materials.

## 1.4 TRANSPORTATION AND STORAGE

### TRANSPORTATION AND HANDLING

The appliance body must always be in a vertical position when handled and exclusively by means of trolleys. Take special care to protect the electric panel, the glass, and all the fragile parts from mechanical impact which could damage them and their correct functioning.

### STORAGE

The appliance must be stored in a humid-free environment and sheltered from the weather; do not place the appliance directly on the floor. The Company denies all responsibility for damage caused to wood floors or floors made from any other material.

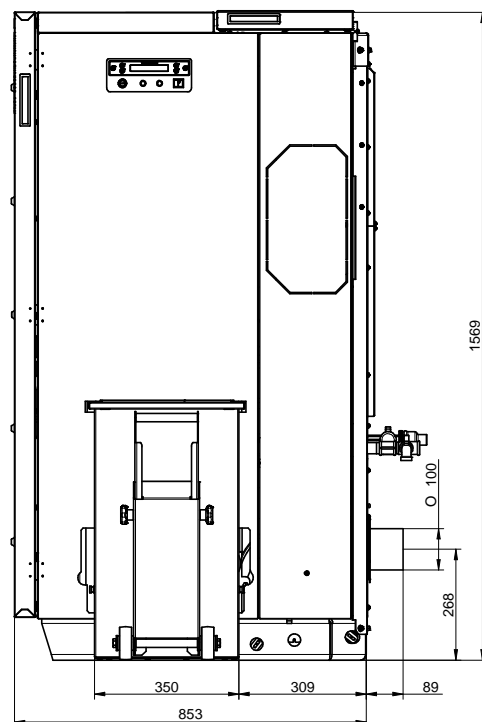
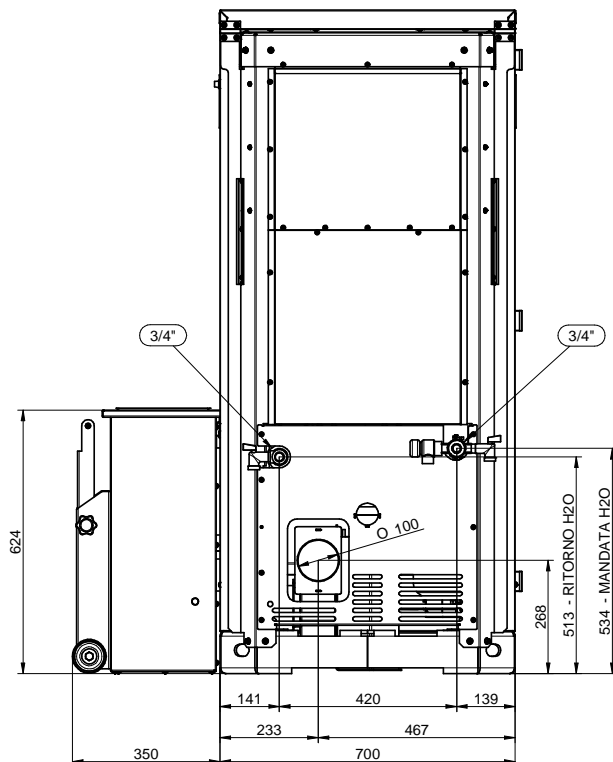
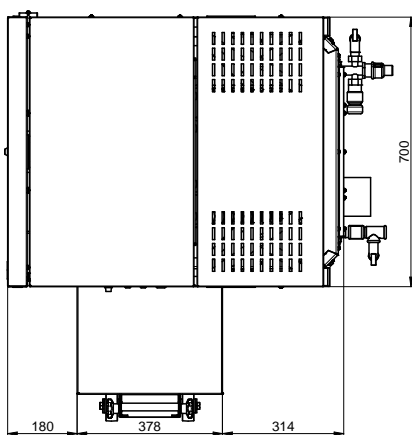
It is inadvisable to store the product for long periods of time.



## 2 – TECHNICAL CHARACTERISTICS\*

### 2.1 COMPACT MATIC 32

COMPACT 32 MATIC	
Height (mm)	1566
Depth (mm)	853
Boiler width (mm)	700
Width with ash pan (mm)	1050
Weight (Kg)	373
Firebox power Min. / Max. (KW)	9.15 / 29.4
Nominal output to water (kW)	26.50
Reduced output to water (kW)	7.6
Min/Max consumption (Kg/ h)	1.89 / 607
Ø smoke exhaust pipe (mm)	100
Min. draught at rated power (Pa)	10
Min. draught at reduced power (Pa)	10
Tank capacity (Kg)	102
Water content (l)	60
Operating pressure (bar)	1.5
Max. operating pressure (bar)	2.5
Average smoke temperature at rated power (°C)	153
Average smoke temperature at reduced power (°C)	86
Max delivery water temperature (°C)	80
Min water return temperature (°C)	55
Smoke flow at rated power (Kg/sec)	18.4
Smoke flow at reduced power (Kg/sec)	10.1
Efficiency at rated power (%)	90.05
Efficiency at reduced power (%)	82.53
CO concentration in exhaust gas with 10% O2 at rated power (mg/m³)	118.4
CO concentration in exhaust gas with 10% O2 at rated power (mg/m³)	338.1
Power supply voltage and frequency	230 V - 50 Hz
Max. electrical consumption (W)	400
Minimum electrical consumption (W)	90
Electrical consumption in standby (W)	4.8
Appliance class	5
Heatable volume (m³)	750
Autonomy (hours) at minimum power / maximum power ***	15 / 50
Noise level (dB) ****	38



\* All the data are based on the appliance fuelled with Austrian standard ÖNORM M 7135 type-approved pellets.

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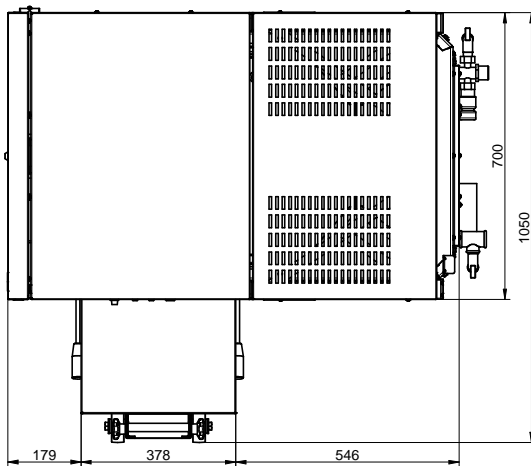
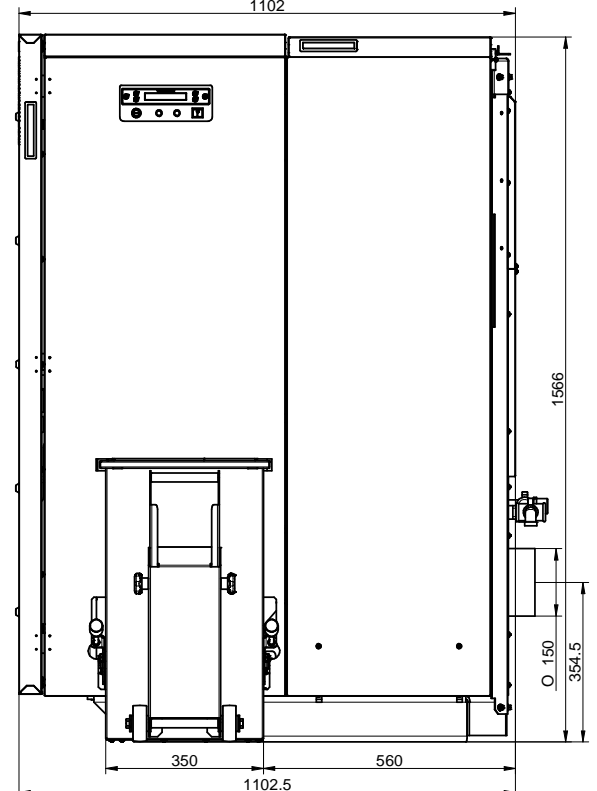
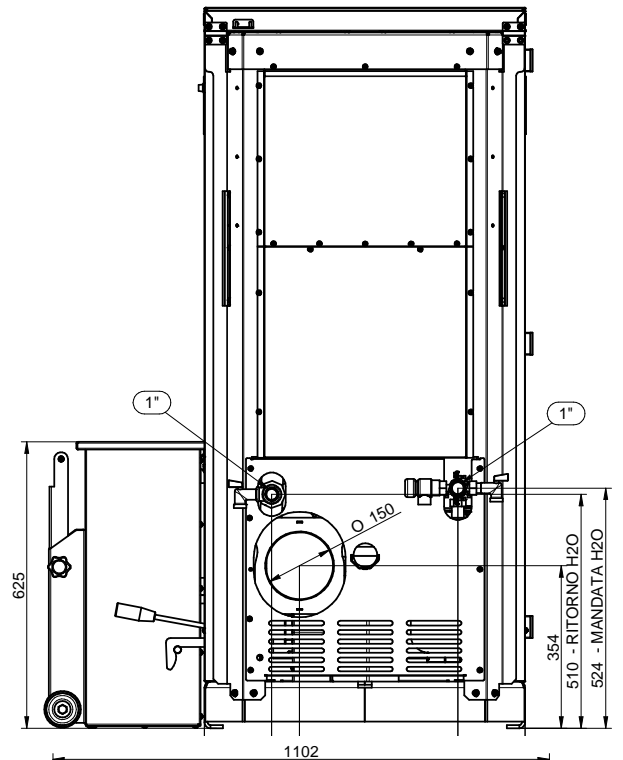
**\*\* It is important to take into consideration the fact that the heatable volume is greatly influenced by the insulation of the house (energy class of the building) and by the position of the appliance in the planimetry of the house, therefore the indicated values may vary, even significantly.**

**\*\*\* Autonomy times may vary, even to a considerable degree, depending on the length and quality of the pellets used.**

**\*\*\*\* Test carried out with sound level meter at a distance of 3m, at the minimum power.**

## 2.2 COMPACT MATIC 50

COMPACT 50 MATIC	
Height (mm)	1566
Depth (mm)	1102
Boiler width (mm)	700
Width with ash pan (mm)	1031
Weight (Kg)	440
Firebox power Min. / Max. (KW)	13.5 / 48.5
Nominal output to water (kW)	43.7
Reduced output to water (kW)	12.4
Min/Max consumption (Kg/ h)	2.8 / 10
Ø smoke exhaust pipe (mm)	150
Min. draught at rated power (Pa)	12
Min. draught at reduced power (Pa)	8
Tank capacity (Kg)	102
Water content (l)	100
Operating pressure (bar)	1.5
Max. operating pressure (bar)	2.5
Average smoke temperature at rated power (°C)	169
Average smoke temperature at reduced power (°C)	79
Max delivery water temperature (°C)	80
Min water return temperature (°C)	55
Smoke flow at rated power (Kg/sec)	28.7
Smoke flow at reduced power (Kg/sec)	11.3
Efficiency at rated power (%)	90.08
Efficiency at reduced power (%)	91.67
CO concentration in exhaust gas with 10% O2 at rated power (mg/m³)	279.0
CO concentration in exhaust gas with 10% O2 at reduced power (mg/m³)	396.6
Power supply voltage and frequency	230V - 50Hz
Maximum electrical consumption	420
Minimum electrical consumption (W)	100
Electrical consumption in standby (W)	5.8
Appliance class (W)	5
Heatable volume (m³)	1,240
Autonomy (hours) at minimum power / maximum power ***	9.5 / 34
Noise level (dB) ****	42



\* All the data are based on the appliance fueled with Austrian standard ÖNORM M 7135 type-approved pellets.

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**\*\* It is important to take into consideration the fact that the heatable volume is greatly influenced by the insulation of the house (energy class of the building) and by the position of the appliance in the planimetry of the house, therefore the indicated values may vary, even significantly.**

**\*\*\* Autonomy times may vary, even to a considerable degree, depending on the length and quality of the pellets used.**

**\*\*\*\* Test carried out with sound level meter at a distance of 3m, at the minimum power.**

### 3 – GENERAL DESCRIPTION

#### 3.1 OPERATING TECHNOLOGY

Your appliance has been built to fully satisfy all your heating and practical requirements. Top-grade components and functions managed with microprocessor technology guarantee high reliability and optimal performance.

#### 3.2 THE PELLET

The appliance is fuelled by pellets, that is, cylinders of compressed sawdust; it his allows you to fully enjoy the heat of the flame without having to manually stoke the combustion.

The pellets have a 6 mm diameter and a maximum length of 15 mm. They have a maximum moisture content of 8%; thermal value 4000/4500 Kcal/Kg and density of approx. 620-630 Kg/m<sup>3</sup>.

**It is strictly forbidden to use any pellet type other than that specified above. The use of fuel that does not comply with the above specifications not only immediately invalidates the warranty for the appliance but can also create dangerous situations. Do not use the appliance as an incinerator, at the risk of voiding the warranty.**

#### 3.3 THE FEEDBOX

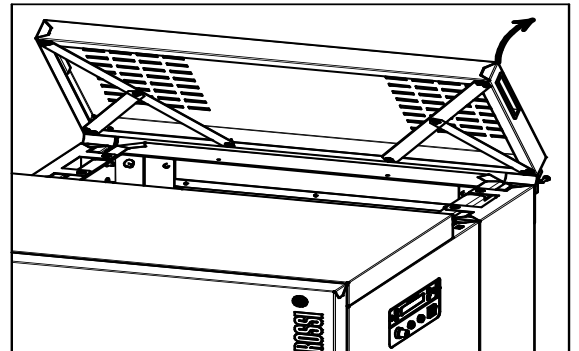


The feedbox is situated in the top part of the appliance. The load capacity specified in the technical data can vary according to the specific weight of the pellets. Take special care when loading the tank as the screw feeder at its base is in motion. Take care when topping up with fuel as the loading area can get very hot. Only pellets that comply with the specifications listed above must be fed into the tank. Never insert foreign objects into the tank.



Attention: when filling up the tank, take care not to drop extreme cases, this could generate live flames. The manufacturer recommends emptying the tank and va the summer period.

**Only pellets that comply with the specifications listed above must be fed into the tank; Do not, in any case whatsoever, insert substances or foreign bodies in any compartment of the generator.**

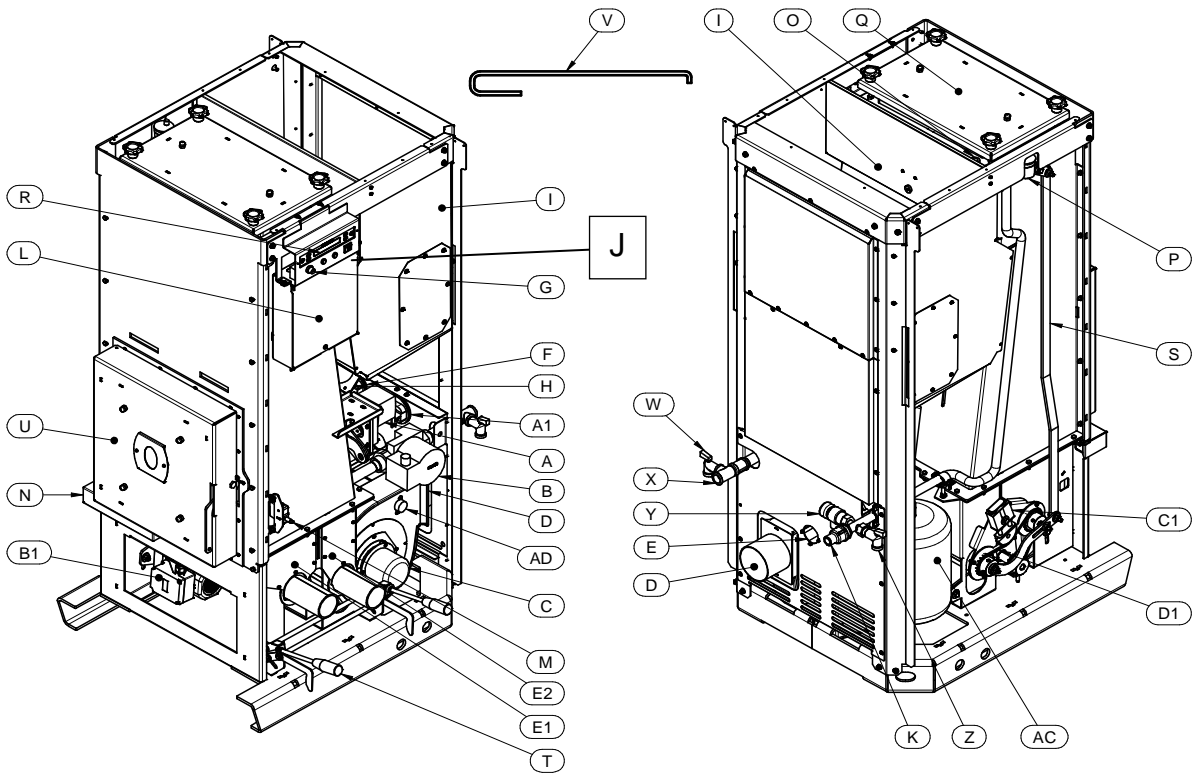


#### 3.4 MAIN COMPONENTS OF THE COMPACT MATIC 32 AND 50 BOILERS

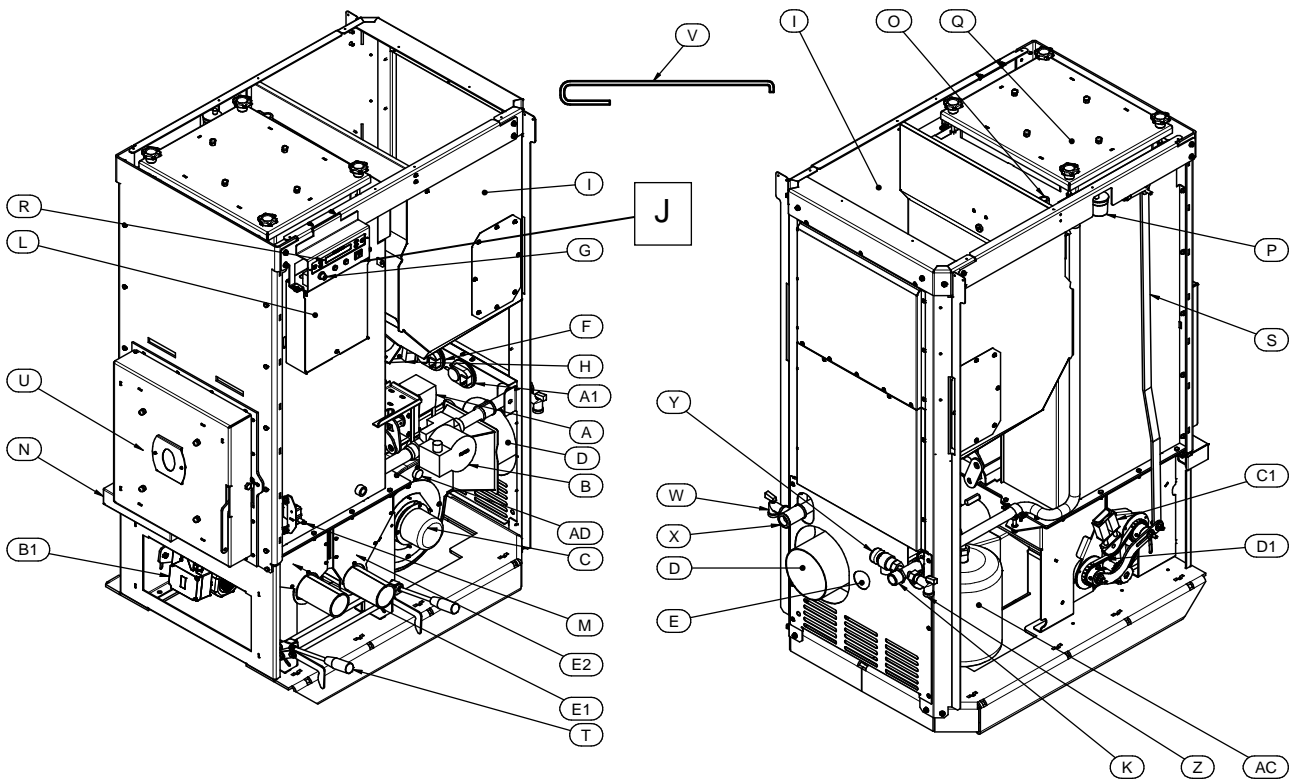
A	Burner cleaning motor	R	Control panel
B	System circulating pump	S	Spiral tube scraper lever
C	Smoke suction unit	T	Dust extractor pan hook
D	Smoke exhaust pipe	U	Combustion chamber / Patented burner
E	Combustion air exhaust tube	V	Riddling tool
F	Smoke exhaust pressure switch	W	3/4" boiler fill/drain tap
G	Safety thermostat 100°C	X	Plant water return
H	Pellet loading motor	Y	1/2" pressure safety valve 3000 mbar
I	Pellet tank	Z	3/4" plant fill tap
J	MAIN SWITCH	AC	Expansion tank 8 l for protection of the boiler only
K	Plant water delivery	AD	Thermostat 42°C
L	Electronic power board	A1	Door open pressure switch
M	Ash pan microswitch	B1	Ash extraction ratiomotor
N	Glow plug	C1	Chain stretcher
O	Pocket for heating system PTC sensor and thermostat bulb 100°C reset	D1	Drive chain
P	Automatic relief valve	E1	Primary ash inspection hole
Q	Tube bundle inspection cover	E2	Secondary ash inspection hole



3.4.1 COMPACT MATIC 32



3.4.2 COMPACT MATIC 50



## 4 - INSTALLATION

### 4.1 APPLIANCE LOCATION



Follow the general guidelines set out in paragraph 1.1 to the letter. Above all keep in mind that the floor of the installation site must be capable of bearing the weight of the appliance added to the weight of the pellets in the tank and any water contained in it as well.



**CAUTION:** The appliance must be installed in a room with adequate ventilation. The appliance must be positioned at a minimum safe distance from walls and furnishings. If inflammable items are positioned near the appliance (matchboarding, furniture, curtains, wall hangings, sofas, etc...), this gap must be increased considerably. The recommended minimum distances are illustrated in Figure 1. If the flooring is made of wood or any other combustible material, it is recommended to install a fireproof floor protector plate between the appliance and the floor. Installation in the vicinity of heat-sensitive materials is only permitted if suitable insulating and fireproof protection is placed between the object and the appliance (ref. Uni 10683). Failure to observe this instruction will immediately invalidate the warranty.



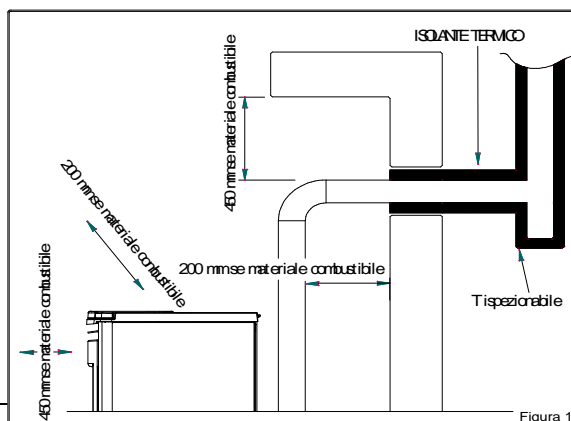
The installer must issue a certificate of conformity for the installation which includes the design plans and the following documents:

- Report containing the type of materials utilised.
- Project as defined in Article 5 of Ministerial Decree n° 37 22 January 2008.
- References to existing partial or previous declarations of conformity (e.g. electrical wiring).
- Copy of the certificate of recognition of the professional technical qualifications.



These documents must, by law, be kept together with the use and maintenance guide. The customer is responsible for verifying, directly or indirectly, that the installation has been carried out to perfection in accordance with relevant regulations in force. Do not install the appliance in unsuitable rooms such as bedrooms, bathrooms, garages and/or lock-ups. It is forbidden to place the appliance in environments with an explosive atmosphere.

**ATTENTION**, the stove is not simply a household appliance: if the instructions set out in this booklet are not followed and/or if installation of the appliance is not executed perfectly and/or the provisions in force are not strictly complied with, dangerous conditions could arise for both objects and persons.



Legenda	Key
ISOLANTE TERMICO	HEAT INSULATING MATERIAL
200 - 450 mm se materiale combustibile	200 / 450 mm if combustible material
T ispezionabile	Inspectable Tee element
Figura 1	Figure 1



The installer must provide the final user with verbal instructions on the correct use of the appliance when the boiler is set at work for the first time.

### 4.2 DISMANTLING THE CASING

The appliance is supplied packaged on a pallet; before positioning and installing it dismantle the casing as described.

To remove the right front panel (G):

- unhook the top cover (A)
- undo the two screws (G1) and remove the panel.

To remove the left front panel (E):

- unhook the top cover (A)
- undo the six hinge screws (C1) and remove the front door (C)
- undo the two screws (E1) and remove the panel.

To remove the right rear panel (D) and the left rear panel (F):

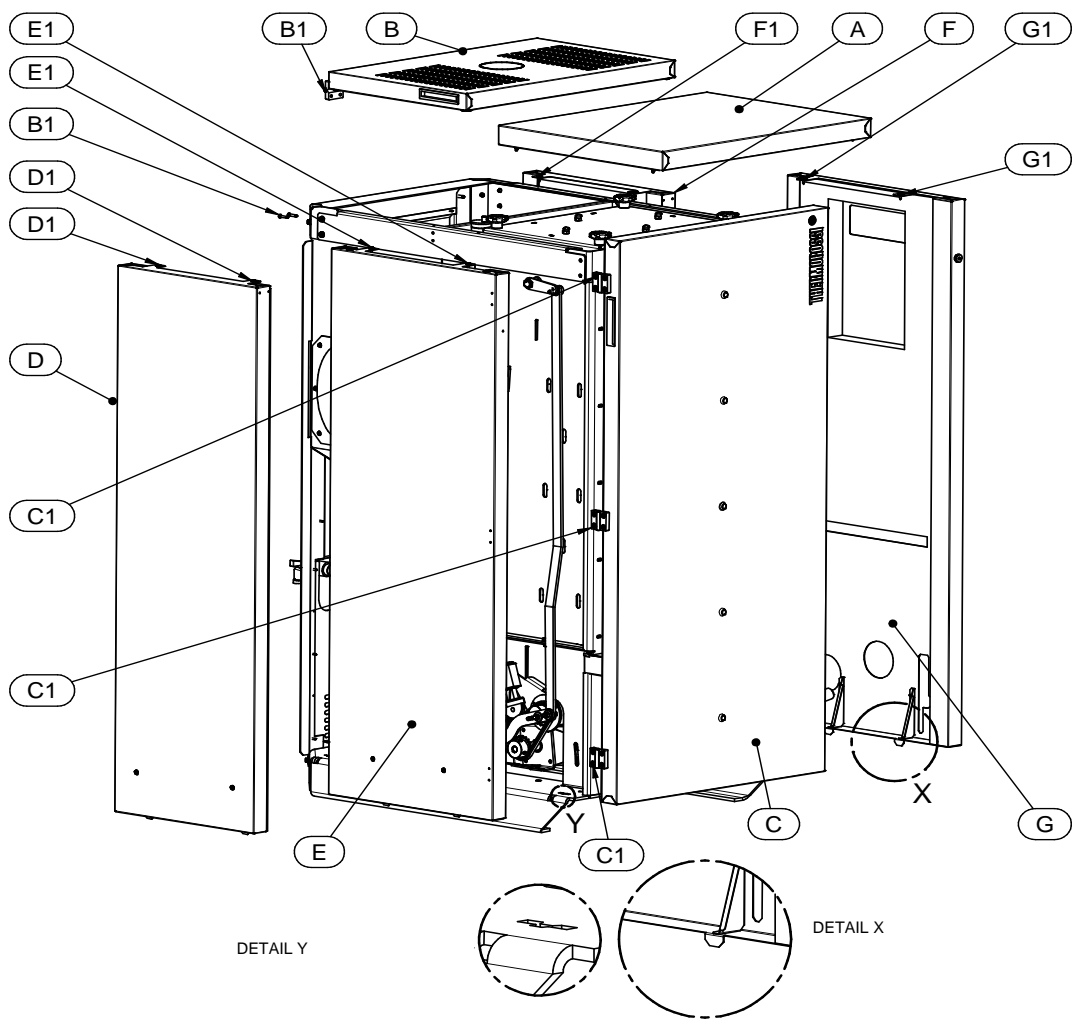
- undo the four screws (B1) and remove the pellet cover (B)
- undo the screws (D1) and remove the panel (D)
- undo the screws (F1) and remove the panel (F)
- to remount the panels, carry out the procedure in reverse taking care to match the tabs on the panels (detail X) with the slots in the base (detail Y).

In addition the opening of the front door (C) can be reversed; simply:

- undo the six side screws (C1), remove the door and remove the three hinges from the opposite side of the door



- 
- 
- remove the magnet from the right front panel (G) and mount it in the corresponding hole on the left front panel (E)
  - fix the front door to the right front panel (G) using the six screws (C1)

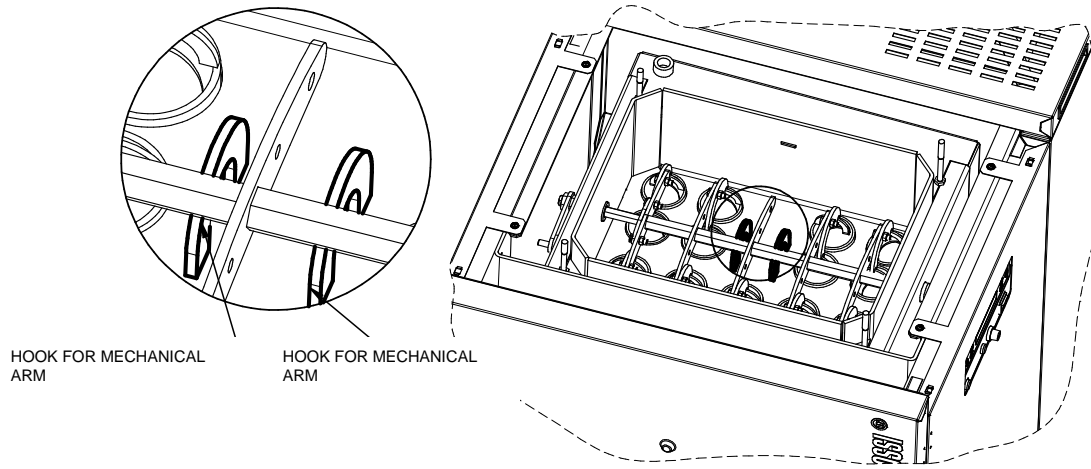


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#### 4.2.1 HANDLING WITH MECHANICAL ARM

If a mechanical arm is available to facilitate moving the appliance, use the hooks located inside the top smoke circuit cover, as illustrated in the figure.



### 4.3 ASSEMBLY OF ASH TROLLEY

To assemble the ash trolley proceed as follows:

- Remove the right front panel as described in the previous paragraph.
- Mount the trolley coupling KIT **A** to the boiler body with the four screws supplied **A1**. Tighten the screws with a suitable wrench (not supplied).

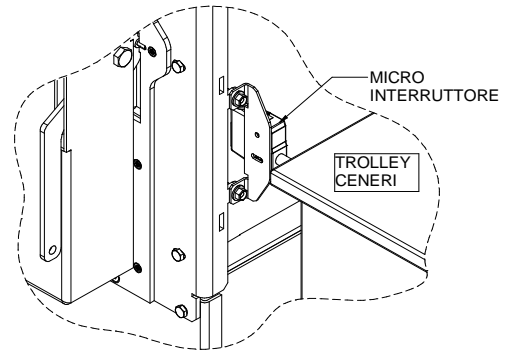
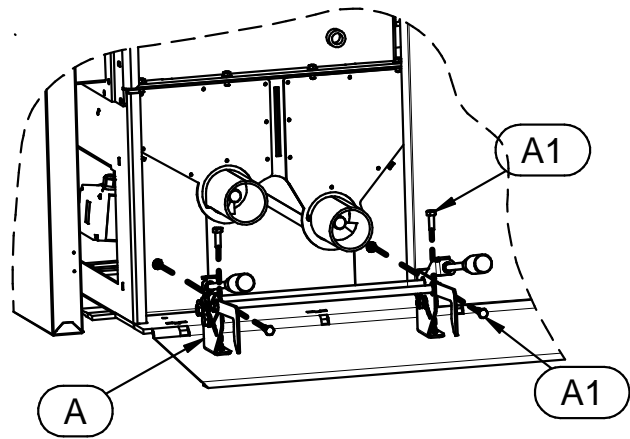
CAUTION: the coupling KIT is placed inside the ash trolley.

- Check that the microswitch mounted in the boiler body is positioned correctly and that it activates when the ash trolley is inserted. If necessary re-position the microswitch correctly.

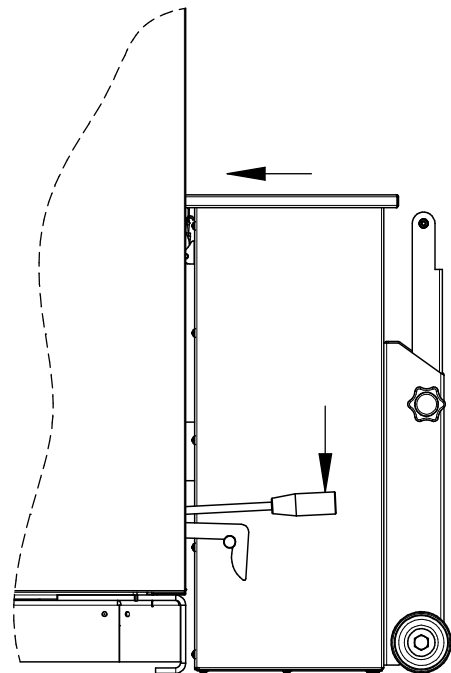
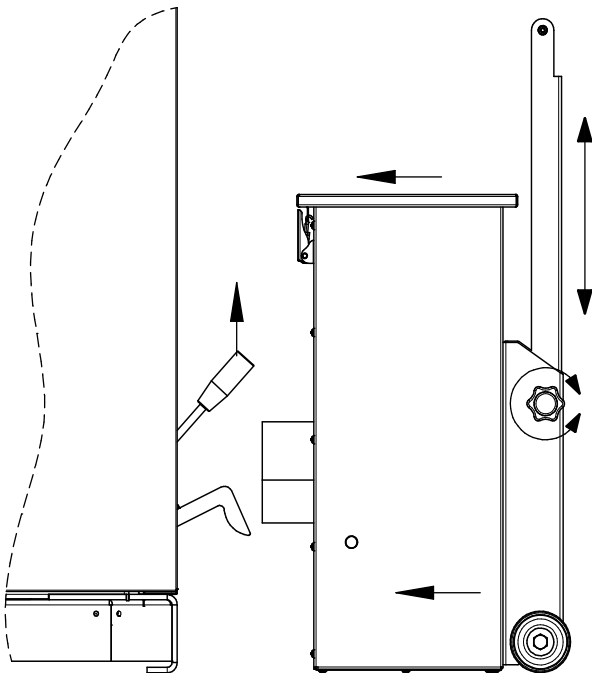
- Lower the levers and replace the right front panel.

- Lift the lever to the maximum height position; position the ash pan and lower the lever until the pan attaches .

**IMPORTANT:** if the ash trolley is not installed or if it is removed during normal operation of the appliance, the boiler will not start up . When the pan is removed the pellet feed motor shuts off consequently pellets are not delivered to the brazier.



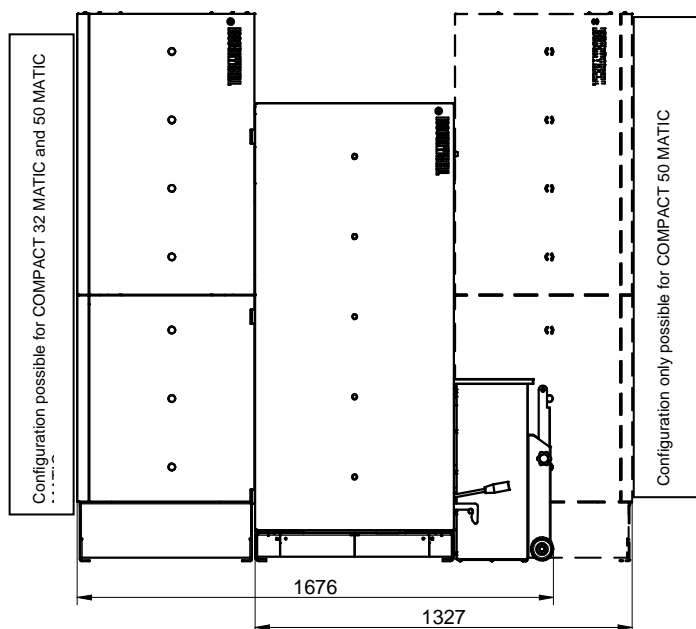
Legenda	Key
MICROINTERRUPTORE	MICROSWITCH
TROLLEY CENERI	ASH TROLLEY



## 4.4 ASSEMBLY OF THE SERBCOM (optional)

If you wish to increase the operational autonomy you can install additional pellet storage tanks at the sides of the appliance which are connected directly to the main tank of the boiler model SERBCOM, that contains an additional pellet reserve tank of about 100 kg.

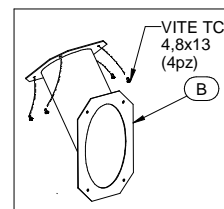
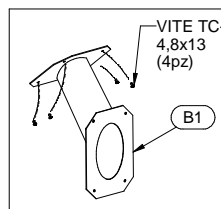
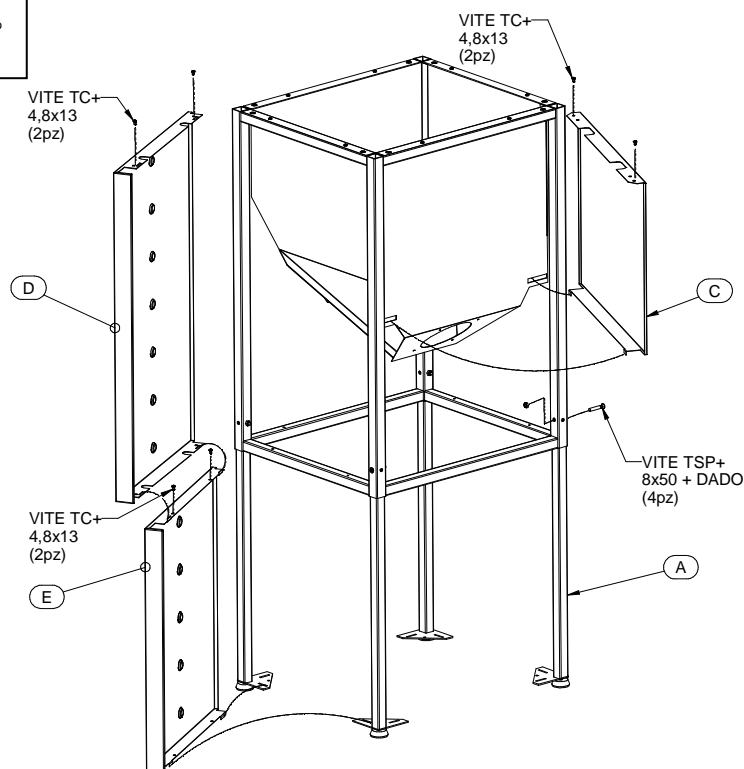
### 4.4.1 ASSEMBLY OF THE SERBCOM (optional)



LEGENDA FIGURE SOTTOSTANTI	FIGURE KEY BELOW
VITE TC	CAP SCREW
VITE TSP	SCREW TSP
DADO	NUT

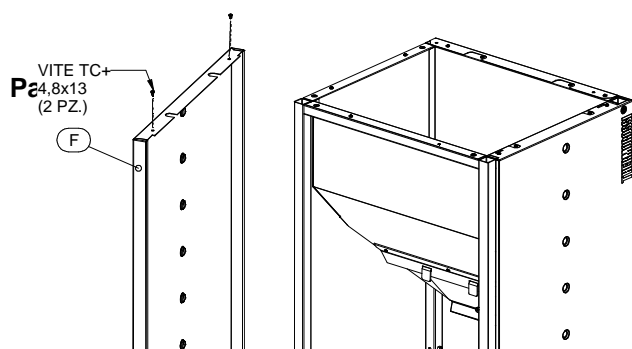
After unpacking the tank assemble as described below:

- Fix the 4 telescopic legs **A** with the screws provided (Screws TSP+ 8X50).
- Next mount the pellet chute (attention use chute **B**) to the tank with the screws provided (Cap screws + 4.8x13).
- Next mount panel **C** by firstly positioning the bottom folded edge over the holes on the tank and then fix it with the supplied screws (Cap screws+ 4.8x13).
- Similarly, fix panel **E** with the supplied screws (Cap screws+ 4.8x13).
- Next mount panel **D** by positioning the bottom rectangular holes on the folded edge of panel **E** and fix it with the supplied screws (Cap screws+ 4.8x13).
- Panels **D** and **E** can be mounted to the right or the left of the pellet chute **B**; if mounted on the right side then mount the additional tank to the right of the boiler.
- Fix the panel **G** by firstly inserting the bottom edge on the feet then securing it with the screws provided (Cap screws +4.8x13).
- Next mount the panel **F** by inserting the bottom folds on the holes in the panel **G**.



To mount the SERBOM in MATIC boilers the additional riser base kit is required. Assemble as follows:

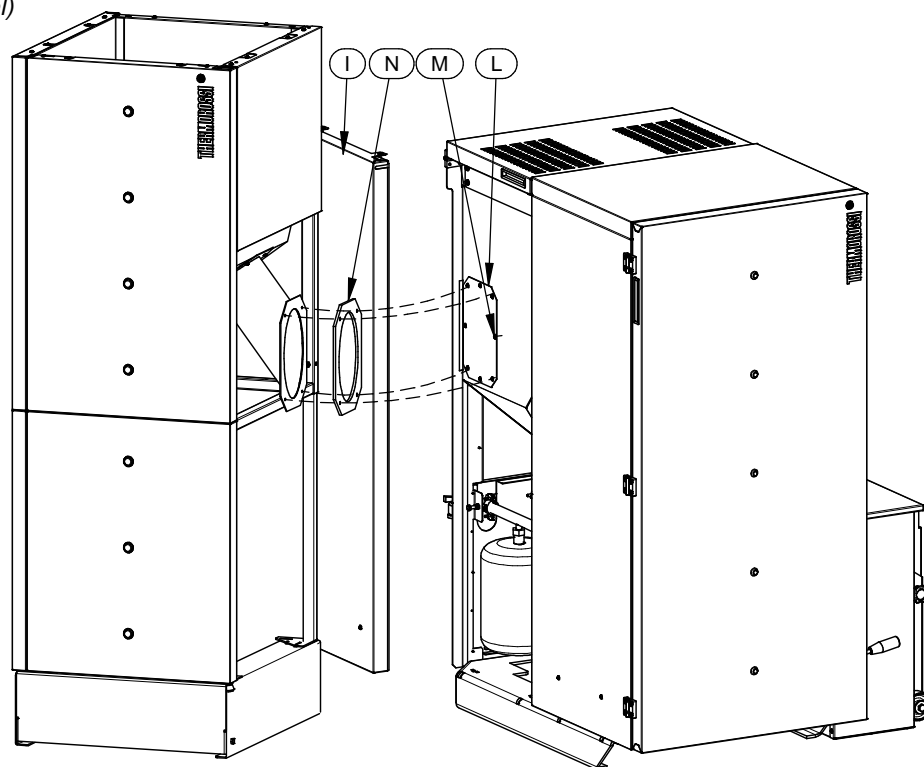
- Unscrew mounting feet **F** from the telescopic legs **A**.
- Fix the front riser base **G** with the supplied screws **H**.
- Fix the **RH** and **LH** sides with the supplied screws.



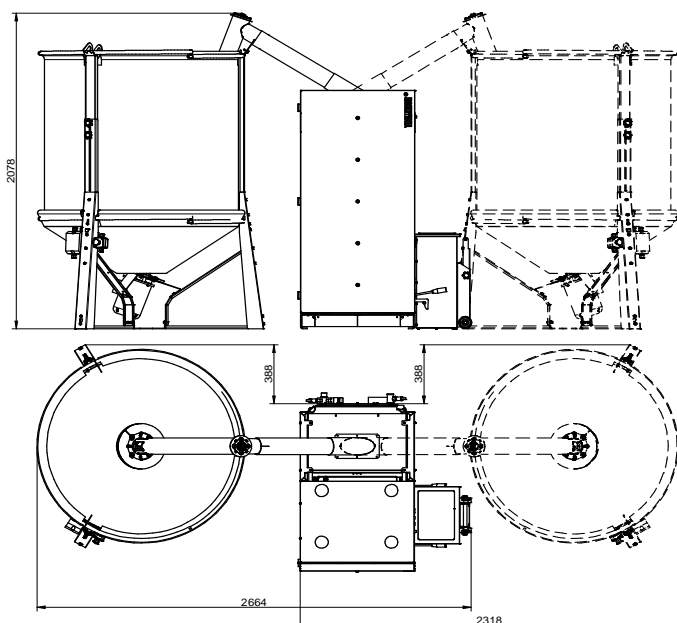
#### 4.4.2 INSTALLATION OF SERBCOM (optional)

After having assembled the additional tank proceed to mount the tank to the boiler:

- Decide which side to install the additional tank (for the COMPACT MATIC 32 model the SERBCOM can only be installed on the left side)
- Remove side panel **I** from the boiler
- Remove cover **L** from the tank by undoing the screws **M**.
- Position the assembled additional tank with the spacer **N**.
- Fix the assembly with the screws previously removed from the cover **I**.



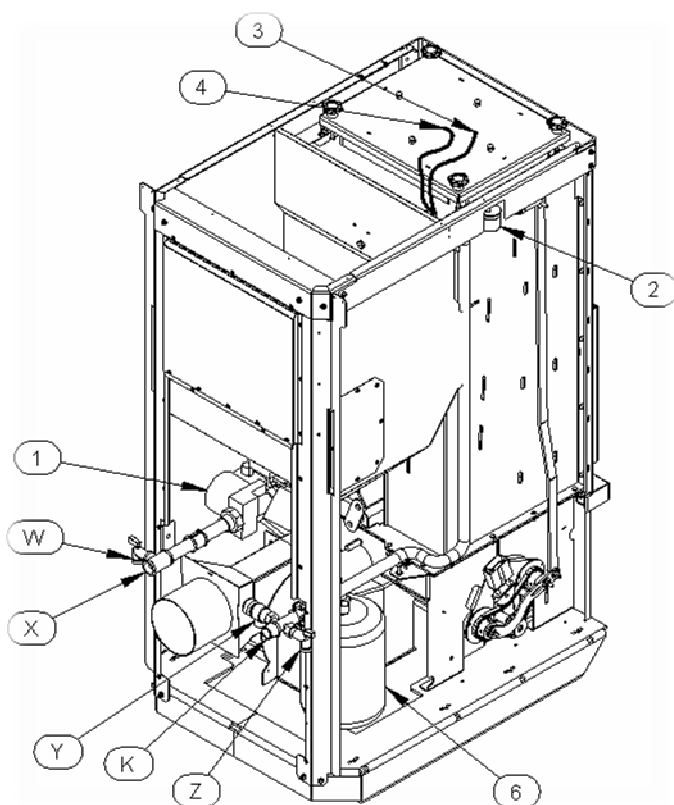
## 4.5 INSTALLATION OF SILOTHERM (optional)



If a longer operational autonomy is required an automatic storage tank can be installed on one of the two sides of the appliance and connected to the main tank by means of a motorised auger. The SILOTHERM contains an additional pellet reserve tank of roughly 1000 kg. The pellets are automatically fed into the boiler tank as directly commanded by the sensors installed inside the main tank of the boiler.

## 5 -HYDRAULIC CONNECTION

### 5.1 HYDRAULIC DRAWINGS



- 1 System circulating pump
- 2 Automatic relief valve
- 3 Sensor PTC boiler
- 4 Thermostat bulb 100°C reset
- 6 Closed expansion tank
- W Plant drain gate valve
- X Heating plant return
- Z Gate valve for plant replenishment
- K Plant delivery
- Y Safety valve 3 bar

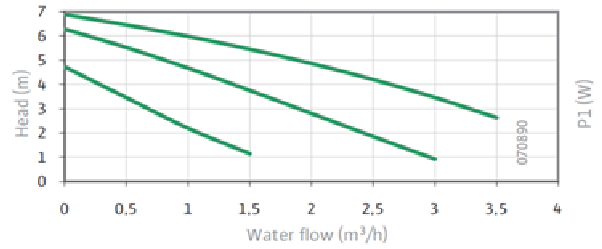


CAUTION: FOR THE DELIVERY, RETURN, MAKE-UP AND DISCHARGE CONNECTIONS USE FLEXIBLE TUBES HAVING A LENGTH OF AT LEAST 70 CM TO FACILITATE MOVING THE APPLIANCE FOR MAINTENANCE.



CAUTION: A CONNECTION MUST BE MADE BETWEEN THE SAFETY VALVE AND THE OUTLET TO PREVENT DAMAGING MATERIALS SURROUNDING THE BOILER WHEN THE VALVE IS ACTIVATED.

	MATIC 32	MATIC 50
Head loss with $\Delta t$ 10°C between delivery and return - mbar	128.7	61.4
Head loss with $\Delta t$ 20°C between delivery and return - mbar	32.2	15.4



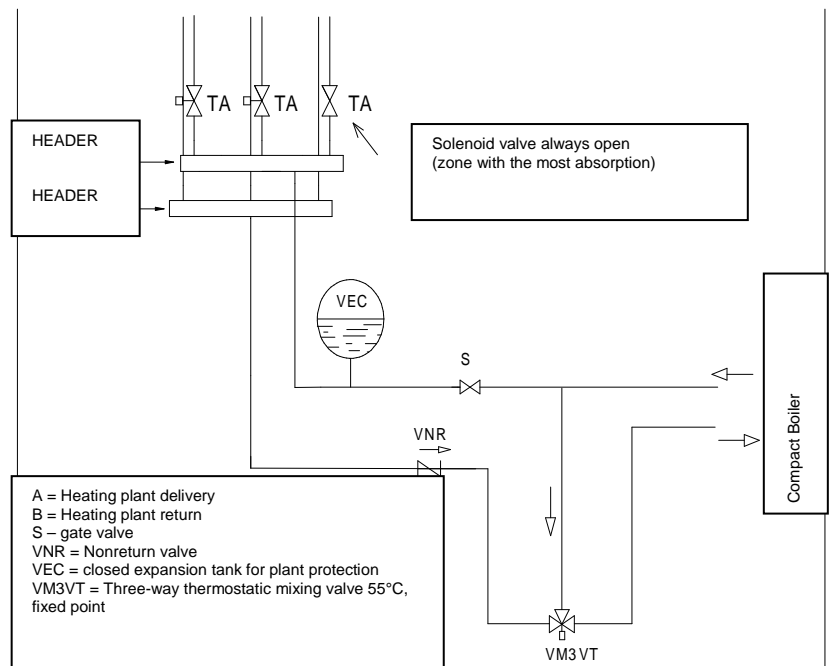
**CAUTION: To avoid continual startups and shut offs, the size of the plant must be such as to guarantee power absorption that is not less than the power generated by the boiler running at minimum steady state power level.**

### 5.1.1 GUIDELINES FOR PLANTS WITH ZONE VALVES

Note: above 61°C, the generator pump is always active as it is essential to dissipate the heat; therefore the solenoid valve must be open for the following reasons:

- to prevent the generator from continually starting up and shutting off caused by the inevitable loss of heat to the header and/or due to plant tubing.
- to prevent the generator from raising the water temperature by just a few degrees each time it is switched off then back on until it shuts down due to exceeding the maximum threshold temperature of 98°C (manually reset thermostat).

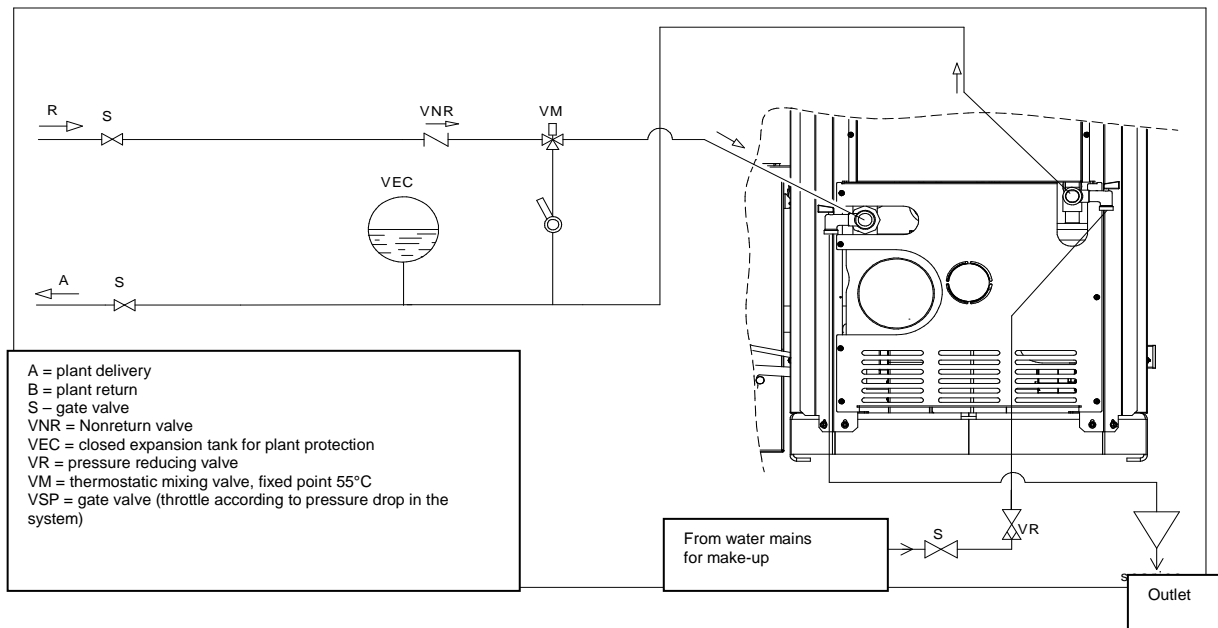
To adjust the ambient temperature in which valve opened, we recommend connecting the room temperature thermostat to the CHRONOTHERMOSTAT MODEM terminal (free contact COM-NO see para. 6.2) that allows the machine to be shut off via an external contact and therefore also restarted. This ensures that the generator only activates if there is a real request for heat from the zone in which the chronothermostat is installed.



Several parallel-connected room temperature thermostats can be installed in the CHRONOTHERMOSTAT MODEM. This will ensure that the zone requesting heat (contact closed) automatically activates the generator. In the event of frequent startups and shut offs due to the heat produced by the generator not being absorbed, the manual reset safety thermostat trips and blocks the generator (see para. 11.1).

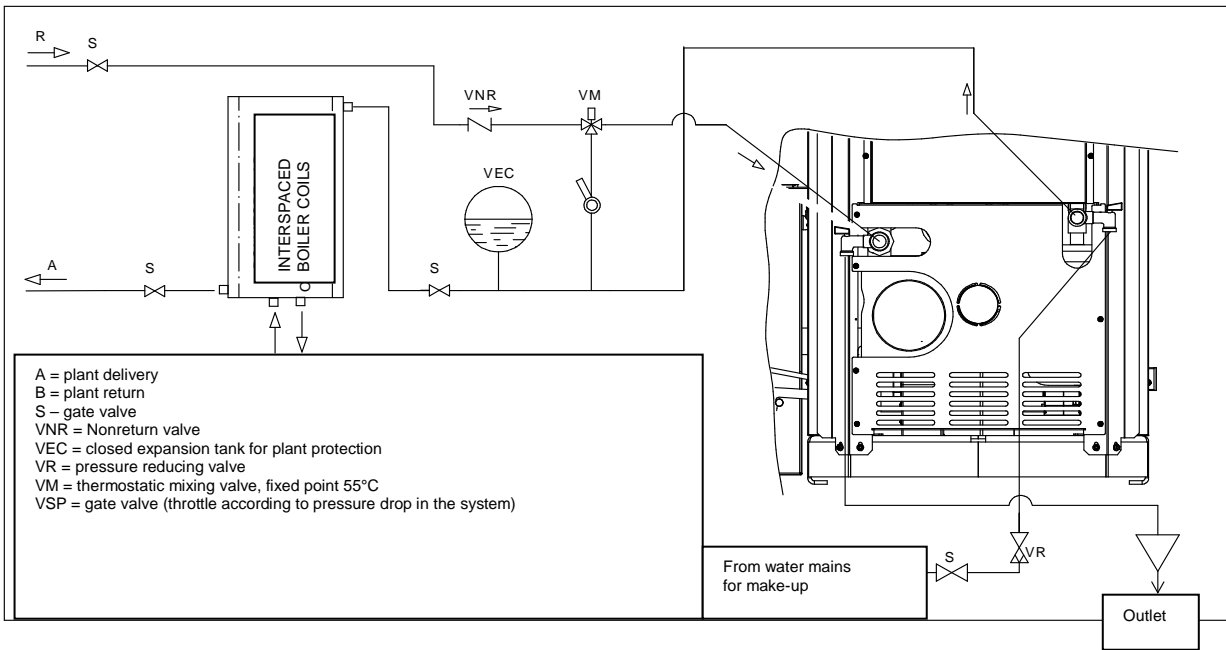


## 5.2 HYDRAULIC DIAGRAM WITH HEATING ONLY



**CAUTION:** it is mandatory to earth the generator. If this instruction is not observed serious damage, which is not covered by warranty, will result to the body of the boiler. Have a skilled electrician check the earthing. There must be no electric potential (Volt) between the generator earth and the plant's real earth (earth plate). To prevent electrochemical corrosion of the boiler body do not use galvanised pipes and fittings. Other materials must be earthed with special earthing cables in order to obtain a unipotential earthing system.

### 5.3 EXAMPLE OF HYDRAULIC DIAGRAM WITH INTERSPACED BOILER COILS OR BOILER COILS

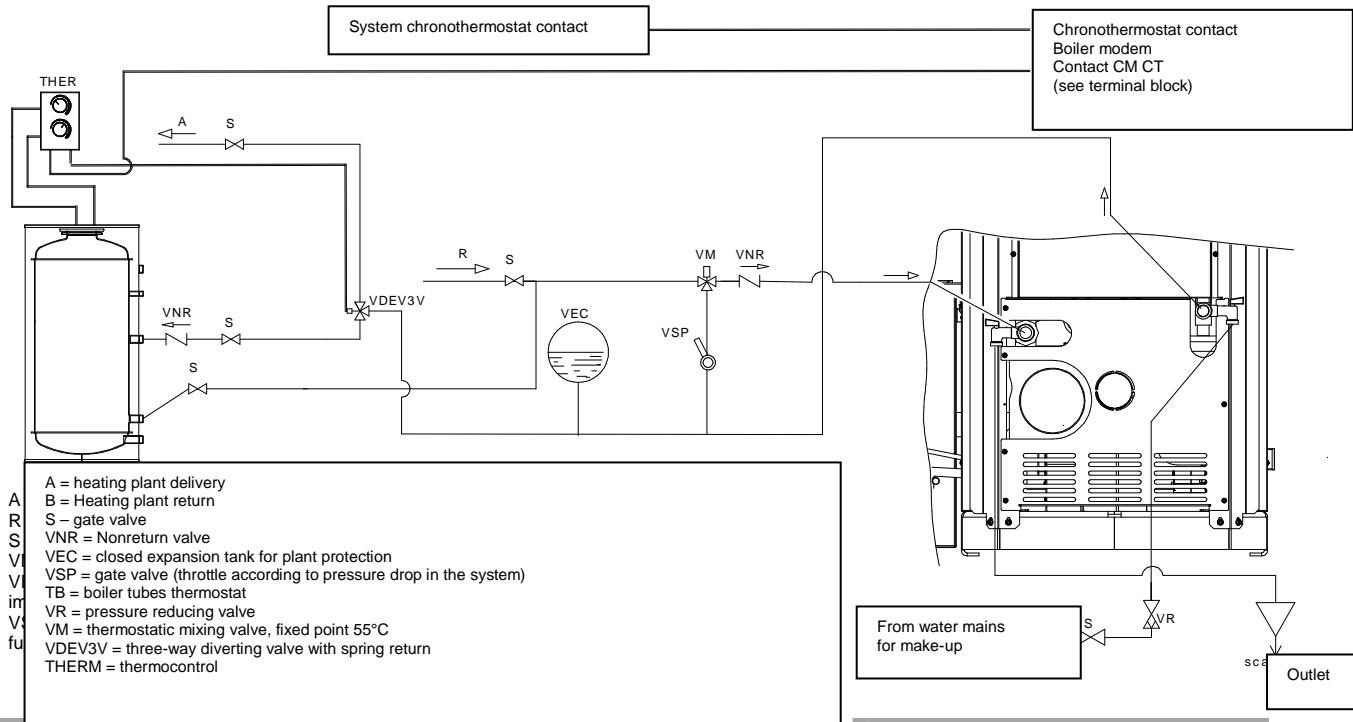


**CAUTION:** The water temperature in the boiler tubes in this case is not adjustable and depends on the system's delivery temperature, that is the temperature set in the boiler. The boiler tubes can be installed on the water return circuit. Moreover, the Manufacturer recommends installing a water softener in the domestic hot water system in order to prevent the formation of limescale deposits in the boiler tubes which could compromise its functionality.



**CAUTION:** it is mandatory to earth the generator. If this instruction is not observed serious damage, which is not covered by warranty, will result to the body of the boiler. Have a skilled electrician check the earthing. There must be no electric potential (Volt) between the generator earth and the plant's real earth (earth plate). To prevent electrochemical corrosion of the boiler body do not use galvanised pipes and fittings. Other materials must be earthed with special earthing cables in order to obtain a unipotential earthing system.

### 5.4 EXAMPLE OF HYDRAULIC DRAWING WITH BOILER COILS AND THERMOCONTROL (OPTIONAL)



In order to guarantee correct absorption of the heat produced by the generator it is advisable to use a boiler tube with volume and heat exchange capacity suitable for the power of the generator. The boiler tube must have a minimum capacity of 300l. In any case the boiler tube must be capable of absorbing all the power that the generator is capable of delivering.

If this rule is not observed, the generator could raise the water temperature to such a point as to activate the safety limit thermostat which stops the fuel from dropping into the burner and therefore forces the appliance to shut off.

The installer must install a switching valve towards the plant, which activates when the boiler tube is thermally "satisfied". Consequently, the plant must be designed in such a way that the hot water produced by the generator can reach the various zones by acting on the respective zone valves.



**CAUTION:** it is mandatory to earth the generator. If this instruction is not observed serious damage, which is not covered by warranty, will result to the body of the boiler. Have a skilled electrician check the earthing. There must be no electric potential (Volt) between the generator earth and the plant's real earth (earth plate). To prevent electrochemical corrosion of the boiler body do not use galvanised pipes and fittings. Other materials must be earthed with special earthing cables in order to obtain a unipotential earthing system.

### 5.5 THERMOCONTROL ELECTRICAL CONNECTION WHERE THE COMPACT MATIC BOILER IS INTEGRATED IN A PLUMBING SYSTEM WITH BOILER COILS

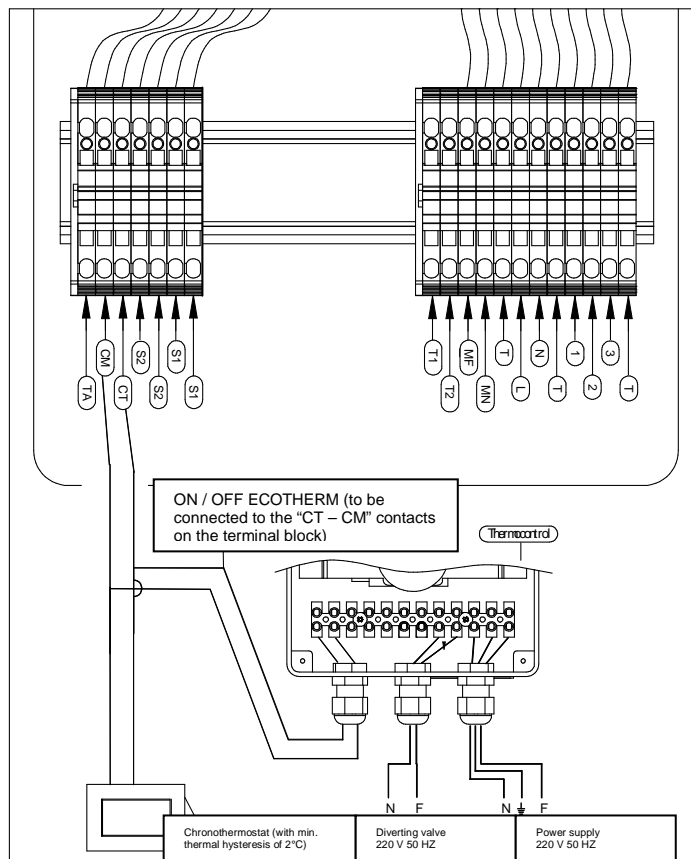


The electrical wiring for the Thermocontrol with the generator is set out below: with this configuration, the shut off command from the Thermocontrol, as well as shutting off the generator, switches over the diverting valve.

If the system Chronothermostat requires more heat the boiler does not switch off until it has satisfied the heating requirements of the room. The connections to the diverting valve and system chronothermostat are shown in the diagram below.



**CAUTION:** in order to prevent too many boiler start ups, with consequent reduction in the electrical heater lifetime, the manufacturer highly recommends using a chronothermostat with a thermal hysteresis of at least 2°C.





<b>Legenda scheda pagina precedente</b>	<b>Key to board on previous page</b>
Attenzione: chiudere tutti i fori non usati del puffer	Note: close all the holes not used by the puffer
Radiatori	Radiators
Riscaldamento pavimento	Underfloor heating
Ai contatti S1 – S1 dalla morsettiera (vedi immagine sopra)	To contacts S1 – S1 from the terminal block (see image above)
Ai contatti S2 – S2 dalla morsettiera (vedi immagine sopra)	To contacts S2 – S2 from the terminal block (see image above)
Ritorno caldaia	Boiler return
Mandata caldaia	Boiler delivery
Sona 1 – 2	Sensor 1 – 2
Tube di collegamento accumuli	Connection tube to puffers
Termopuffer aggiuntivo	Additional Thermopuffer
Vaso di espansione chiuso	Closed expansion tank
Thermocell o thermopuffer	Thermocell or Thermopuffer
Valvola miscelatrice 3 vie termostatica 55°C punto fisso	Three-way thermostatic mixing valve 55°C, fixed point
Circolatore	Circulating pump
Valvola 3 vie manuale	Manual three-way valve
Saracinesca	Gate valve
Valvola saracinesca da parzializzare in funzione delle perdite di carico dell'impianto	Gate valve (throttle according to pressure drop in the system)
Valvola a 3 vie	Three-way valve
Valvola di non ritorno	Nonreturn valve



CAUTION : the preload pressure of the expansion tank must be greater than the plant pressure: for an expansion tank preloaded to 2 bar the plant must be loaded to a pressure that does not exceed 1.5 bar.

CAUTION : The Thermocell is only fitted with a connection to 220V - 50Hz power line; The settings of Sensor S1 and Sensor S2 must only be controlled by the boiler and not by the electric panel of the Thermocell. Connect 2 thermocouples (optional code no. 60010695) to the cable clamps of "Sensor 1" and "Sensor 2" of the generator.

ATTENTION: sensor S1 must be set at 65°C If it is set less than 40 / 45°C the generator switches on.

**CAUTION: it is mandatory to earth the generator. If this instruction is not observed serious damage, which is not covered by warranty, will result to the body of the boiler. Have a skilled electrician check the earthing. There must be no electric potential (Volt) between the generator earth and the plant's real earth (earth plate). To prevent electrochemical corrosion of the boiler body do not use galvanised pipes and fittings. Other materials must be earthed with special earthing cables in order to obtain a unipotential earthing system.**

CAUTION: Sensor S2 and sensor S1 must be connected to the dedicated clamps on the terminal block as indicated in the diagram. To activate the detections of Sensors S1 and S2 set THERMOCONTROL ON (see para. 5.8).

### 5.7 INSTRUCTIONS FOR EXECUTING THE HYDRAULIC SYSTEM CLOSED EXPANSION TANK

In accordance with D.M. (Ministerial Decree) 1.12.75 Collect. R revision 2009, the following components must be installed in plants with a closed expansion tank:

- a) closed expansion tank
- b) ordinary safety valve For appliances with potential below 35kW; "I.S.P.E.S.L. approved" safety valve for appliances with potential above 35kW
- c) thermometer with pocket for control thermometer;
- d) pressure gauge, with flange for control gauge;
- e) manual reset cut-off pressure switch;
- f) acoustic and optical alarm;
- g) an automatic reset temperature limiting device;
- h) a manual reset temperature limiting safety device;
- i) circulation system
- j) minimum pressure protection device.

The generator is already supplied with the following safety devices on board:

- a) 8 l closed expansion tank for generator protection only \*
- b) ordinary safety valve 3 bar, not I.S.P.E.S.L. approved
- g) an automatic reset temperature limiting device (This is an automatic regulating device that cuts off the fuel infeed to the generator when the water reaches the preset temperature. This infeed starts up again automatically when the water temperature drops below the preset value.
- h) a manual reset temperature limiting safety device (This automatic device interrupts the fuel feed when the water reaches the maximum permissible temperature.) The fuel infeed will only restart when the water temperature drops below a preset value and only after the device has been reset manually.
- i) circulation system (circulator pump connected in the boiler return tubing and controlled directly by the generator control board);

\* An extra closed expansion tank should be series-connected to the generator as protection for the system.

The nominal volume of the additional closed expansion tank must be sized in relation to the volume of expansion of the water contained in the system. Thermorossi prescribes that the size of the additional closed expansion tank must be equal to 10% of the water contained in the system. The heat generator must be connected directly to the plant's expansion tank or group of expansion tanks with a tube having an internal diameter no less than 18 mm. The connecting tube, which may consist of plant parts, must not be fitted with any shutoff cocks or have reduced sections.

One three-way on-off valve may be installed for connecting the tank to the atmosphere for maintenance operations. This device must be protected against accidental manoeuvres. The connecting tube must be fitted in such a way that no scaling or deposit points are created. If several heat generators power a single system or secondary circuit, each heat generator must be connected directly to the system's expansion tank or group of expansion tanks sized overall for the total volume of water contained in the same plant or independent circuit. When it is necessary to separate the single heat generator from the expansion tank or group of expansion tanks, then a three-way tap having the same characteristics as those listed above must be installed on the tube that connects the generator to the expansion tank, in order to ensure that the generator is in any case connected either with the expansion tank or with the atmosphere in every position. The expansion tanks, connecting tubes, the vent and smoke exhaust pipes must be protected against freezing in areas where this could occur. The solution adopted for this purpose must be described in the project. Given that the circulation of the water in the heat generator must be maintained in any system and in all operating conditions within the limits prescribed by the supplier of the generator, in closed expansion tank heating systems, in which the

circulation of the water is assured by means of an electric pump, the pump stopping must not cause, in any operating condition, the temperature to rise above the limit prescribed in these instructions.

The maximum working pressure of the closed expansion tank must not be less than the calibration pressure of the safety valve, plus the specific overpressure of the valve itself, with any difference in height between the tank and the valve taken into account, and the pressure generated by the functioning of the pump. The capacity of the expansion tank or tanks is evaluated according to the overall capacity of the plant as per the design. The closed expansion tanks must comply with current regulations governing pressure appliances in terms of design, construction, conformity assessment and utilization.

The outlet tube of the safety valve must be installed in such a way that it does not prevent the normal functioning of the valves and will not cause injury to persons ; The outlet must emerge in the immediate vicinity of the valve and be visible and easily accessible. The diameter of the outlet tube must not in any case be less than the diameter of the safety valve outlet fitting. The outlet fitting diameter is the minimum internal diameter of the valve outlet upstream from any existing internal threading. The valve discharge pressure, equal to the calibration pressure and increased by the overpressure, must not exceed the maximum working pressure of the heat generator. The designer must ensure that the maximum pressure existing at every point of the system does not exceed the maximum working pressure of each of its components. The discharge capacity of the safety valve must be calculated according to the prescriptions set out in UNI 10412/2. The diameter of the minimum net cross section of the valve inlet must in any case be not less than 15 mm.



**The previous chapter does not replace UNI 10412/2 to which it makes reference. The qualified installer must in any case be fully aware of this standard and its amending versions.**

## 6 - USE OF THE BOILER

The appliance, when operating, is hot to the touch, particularly the door of the combustion chamber: take care when handling the appliance components. Your BOILER has obtained the CE marking and has been made to run for 1 hour to check that it functions correctly. The product must not be used by children, by persons with physical or mental impairments, by persons who are not familiar with the instructions for use and maintenance of the product (the instructions are found in this booklet).



CAUTION: Before every use make sure that the burner is clean and positioned correctly in its seat, and check that the ash trolley is shut tight, check that the firebox door is closed. WARNING: the door must always remain shut tight when the heater is operating. It is strictly forbidden to open the door while the appliance is in operation. While the boiler is in operation the smoke exhaust pipes and the heater can reach extremely high temperatures: do not touch them! It is strictly forbidden to use any type of fuel (liquid, solid...) to light the appliance: the appliance must light up automatically as designed and described in this installation, use and maintenance booklet. It is strictly prohibited to pour pellets (or other material) directly into the brazier. Do not place non-heat resistant or inflammable or combustible objects in the vicinity of the boiler: keep them at a suitable distance. Do not place wet clothing to dry on the appliance. When using a clothes horse, keep at a suitable distance. It is strictly prohibited to disconnect the boiler from the electrical power mains during normal operation.



CAUTION, VERY IMPORTANT: every time the door opens the pellet feed motor stops; the motor resumes its pellet loading function when the door is closed. For your safety it is recommended not to open the door while there is a live flame inside the burner and/or during startup.



### 6.1 DESCRIPTION OF THE CONTROL PANEL

The control panel is managed by a microprocessor. The temperature detection system is controlled by a thermocouple. The large display improves the appliance management by making read-outs and functions promptly available. The main feature of the panel is the all-automatic management of the boiler. The controls and displays are described below.

#### [1] Appliance on/off and flame adjustment button

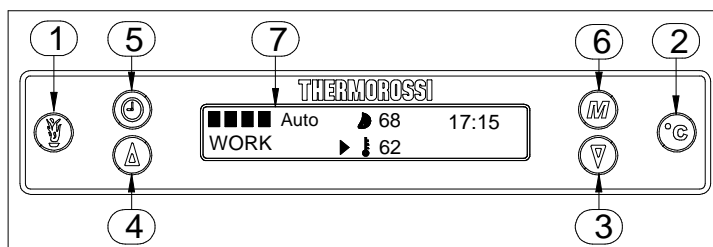
When you press this button the appliance [7] switches to START / OFF. Press repeatedly to activate up to 5 bars and the Auto indicator is activated (automatic).

START - start up phase: during this phase (lasts approx. 20 minutes) the appliance is self-adjusted independently from the settings.


OFF - shut down phase. As soon as the OFF symbol appears the smoke suction unit operates for a certain amount of time before placing the boiler in stand-by mode.





The circulator pump begins operating as soon as the temperature in the boiler reaches 61°C (symbol [▶] displayed)


The other boiler operating statuses appear in the display: WORK..... STOP..... WAIT ON.... SUN OUT (para. 6.10)



**[2] Button for setting water temperature in boiler**

Press this button to set the temperature for the appliance to reach; the setting range is between 65 °C and 73 °C. This value is displayed in the area of the display next to the drop symbol. 

Press this button repeatedly and the following numbers will appear [display 7]:  65 .....  66 .....  73 .....  65 .

The temperature detected by the thermocouple in the boiler is indicated after the symbol. 

**[3] [4] Auxiliary buttons for setting values (only useable within the Menus)**

Press button [3] to lower the value. Press button [4] to raise the preset value.

**[5] Programming Enable / Disable keys**

Press this button to activate / deactivate the programming (presence / absence of the symbol on the display [7]).

**[6] "MENU" selection button:**

To access the main menu press the indicated button. Press button [6] repeatedly to scroll the adjustment, setting and programming windows (see next paragraphs). To return to the operating status simply continue to press the button [6] repeatedly.








When the button is pressed repeatedly the following words appear in sequence :

- DATA/DATE**                    to set the day of the week the hour and minutes.
- CRONO/CHRONO**            to set the chronothermostat.
- LIVELLO/LEVEL**            to vary the rotating speed of the smoke suction unit, the fuel consumption does not change.
- THERMOCONTROL**            the operating temperature for Sensor S1 and Sensor S2 can be activated and set if the plumbing system is fitted with Thermocell.
- ITALIANO**                    to select the language ( ITALIAN ... ENGLISH...)

To access the functions of each subwindow wait a few seconds then act as described in the following paragraphs.



**[7] Display**

Display various information are displayed here:

-                     APPLIANCE OFF
-                     1° POWER LEVEL (The appliance remains always at this power level)
-                     2° POWER LEVEL (The appliance remains always at this power level)
-                     3° POWER LEVEL (The appliance remains always at this power level)
-                     4° POWER LEVEL (The appliance remains always at this power level)
-                     5° POWER LEVEL (The appliance remains always at this power level)
-  Auto                    AUTOMATIC (The appliance modulates the thermal power according to system demands)

For further details read the following paragraph.

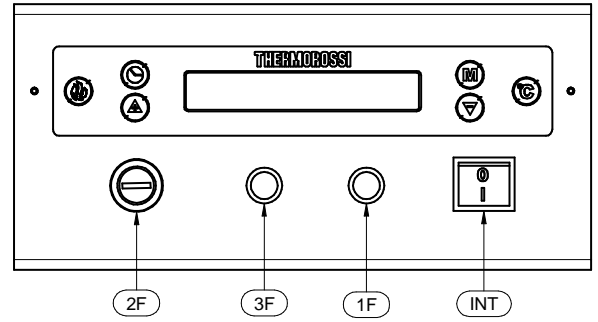
**00:00** Time

- indicates that the circulation pump is activated when the water temperature in the boiler exceeds 61°C.
-  -                    indicates the maximum boiler water temperature adjustable by means of button (2).
-                     Indicates the boiler water temperature detected by the thermocouple.



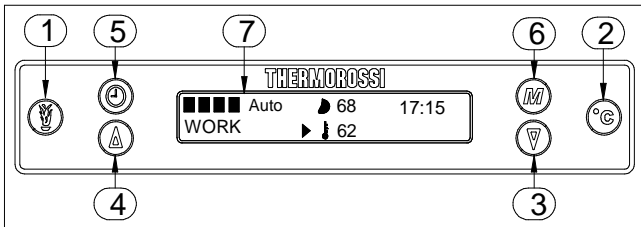
## 6.2 DESCRIPTION OF INDICATORS ON PANEL

- [1F] Feed motor test indicator light When the pellet screw feeder is set in motion the light comes on.
- [3F] Reset thermostat tripped indicator light This LED comes on when the reset thermostat is activated.
- (INT) Main switch 0-1
- (2F) Overtemperature thermostat button cap In the event of overtemperature this safety thermostat stops the loading of pellet and when it is activated LED 3F comes on.  
To restart the boiler you have to wait until the water inside overheating, remove the cause, unscrew the protective cap and



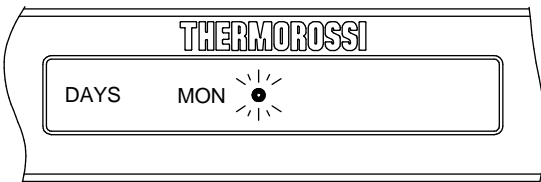
## 6.3 DAY AND TIME SETTING

The appliance must be energised and the switch on the control panel in position "1".

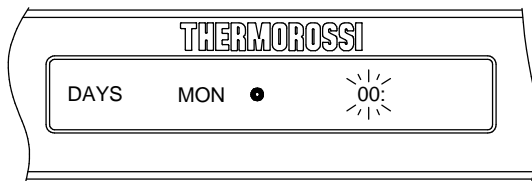


To set the clock and the day of the week carry out the procedures described below.

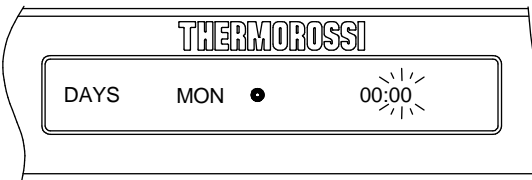
Press button [6] repeatedly until the word **DATA**(date) appears on the Display [7]; after a few seconds the following indications appear on the Display [7]:



The dot begins to blink. Press button [3] and/or [4] to change the day of the week ( ... TUE » » ... WED » » » ... THU » » » »... FRI » » » » » ... SAT » » » » » » ... SUN » » » » » » » » ...). Press button [2] to confirm.

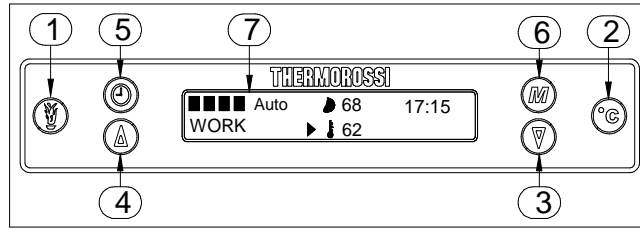


The figures relating to the hours on the clock begin to blink. Press button [3] and/or [4] to change the hours. Press the button [2] to confirm.



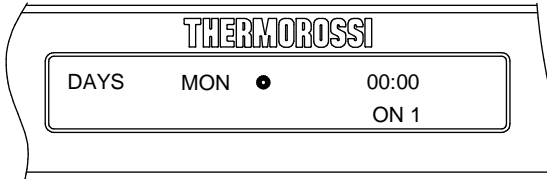
The figures relating to the minutes on the clock begin to blink. Press button [3] and/or [4] to change the minutes. Press the button [2] to confirm. The day and time setting is now completed: at this point the boiler operating status will appear on the display.

## 6.4 CHRONOTHERMOSTAT: ON/OFF PROGRAMMING

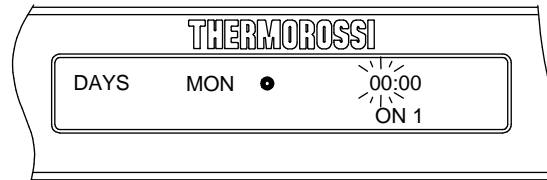


The appliance must be energised and the switch on the control panel in position "I".

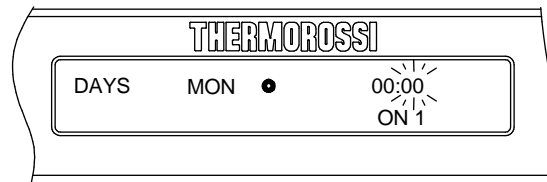
It is possible to set the weekly program by setting up to 3 on-off cycles at different times for every day from Monday through to Sunday. To access the programming mode press the button [6] repeatedly until the word CRONO appears: after a few seconds the following indications appear on the Display [7]:



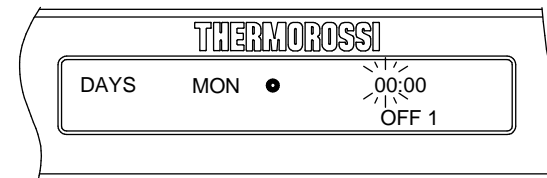
Press button [1] repeatedly to display the desired day in which to enter or change the programming. Press button [2] to confirm.



The figures relating to the minutes programming for the first startup begin to blink [ON 1]. Press button [3] and/or [4] to change the hours. Press the button [2] to confirm.



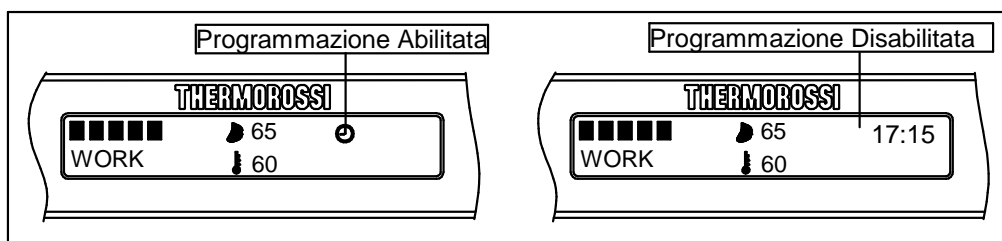
The figures relating to the minutes programming for the first startup begin to blink [ON 1]. Press button [3] and/or [4] to change the minutes. Press the button [2] to confirm.



Press button [2] once again and the figures relating to the hours programming for the first shut off [OFF 1] begin to blink. Similarly, as described above, proceed to enter the hours and minutes for the first shut off [OFF 1]. Next proceed to program the other on - off cycles for Monday and for the remaining days of the week.

To exit programming simply press button [2]: at this point the appliance operating status will appear on the display.

During the operating status of the appliance, programming can be enabled or disabled (when you press button [5] the words [ON CRONO] or [OFF CRONO] will appear on the display accompanied by the steady presence or the absence of the corresponding symbol).



Programming enabled

Programming disabled



In the event of a programmed cycle on always ensure that the brazier is clean: failure to keep the brazier clean can significantly reduce the life of the spark plug.

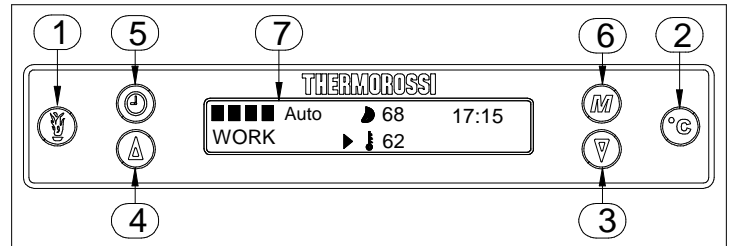
## 6.5 LANGUAGE SELECTION

The appliance must be energised and the switch on the control panel in position "I".

Press the button [6] repeatedly until the word [ITALIANO] appears on the display [7].

Press button [4] repeatedly until the following words appear in sequence on the display: ENGLISH ... DEUTSCH ... FRANÇAIS ... ESPAÑOL ... ITALIANO.. Once you have selected the desired language press button [2]: At this point the boiler operating status will appear on the display.

The operating alarms will be displayed in the selected language.



## 6.6 OPERATING LEVEL SETTING

The appliance must be energised and the switch on the control panel in position "I".

Your appliance is delivered with an excellent program installed that favours combustion efficiency; the program is called **LEVEL 1**. If you are using pellets with a higher than normal incidence of residues after combustion in the brazier, alternative levels may be selected:

**LEVEL 2** this program increases the smoke suction unit speed acceleration.

**LEVEL 0:** when using lightly-compressed pellets and/or flue outlets with very high vacuum, over 2 mm water column.

The pellet consumption value is not affected by the operating level settings.

Select the required level by acting as follows:

Press button [6] repeatedly until the word [LEVEL] appears on the display then after a few seconds the word LEVEL followed by the value set (LEVEL 01 or LEVEL 02 or LEVEL 00). In order to change the operating level as key [4] is kept pressed, press the key [3]. Hold down button [4] once again and press button [3] to change the level.

To return to the boiler operating status simply press button [6] repeatedly until the operating status appears.



The level selection can be made with the appliance **OFF** or **ON**. If the change is made while the appliance is running the difference in the flame will be apparent. It is mandatory to pay particular care when selecting the most appropriate operating cycle for your installation. After the selection of the operating cycle a thorough cleaning of the brazier is mandatory.

## 6.7 REMOVING THE ASH

The generator is fitted with a number of devices that help with its cleaning. Note that these devices do not replace the normal cleaning operations described in paragraph 8.

From the control panel access the screen dedicated to this function as described below.

The appliance must be powered and the main switch in position [I].

When the generator has completed the entire shut off sequence [OFF], with the smoke suction unit off, press button [6] repeatedly until the words **ASH REMOVAL** appear on the screen.

In the **ASH REMOVAL** cycle following activate simultaneously:

- Tube scrapers contained in the smoke tube heat exchanger.
- Ash removal devices, consisting of two augers. The ash is directed to a compartment called the "ash trolley".

Two different cleaning cycles are available:

- Auto: the ash removal device acts according to preset timing and duration (preset by the Manufacturer).
- Manual: the ash removal device acts when the generator is turned OFF.

Select the cleaning mode by pressing button [4] and confirm the selection by pressing button [2].

The complete cleaning cycle takes place according to the times set by the Manufacturer, whereas a faster cleaning operation takes place at every startup cycle.



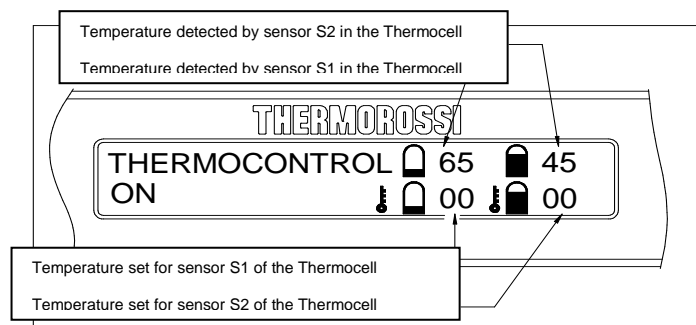
**ATTENTION:** when the pan is almost full, the text EMPTY THE ASH PAN will appear on the display. It is imperative to promptly empty the "ash trolley". If the pan is not emptied, the appliance will automatically shut off until the "ash trolley" is emptied.

## 6.8 ACTION TEMPERATURE SETTING "SENSOR 1 " THERMOCELL AND "SENSOR 2" THERMOCELL" AS INDICATED IN THE HYDRAULIC SYSTEM DRAWING (para. 5)

The appliance must be powered and the main switch in position [I].

Press the button [6] repeatedly until the word **THERMOCONTROL** appears on the display [7]. After a few seconds the inscription **THERMOCONTROL ON** or **THERMOCONTROL OFF** will appear. Press button [4] and/or [3] to activate or deactivate the THERMOCONTROL function (**ON** or **OFF**). Press the button [2] to confirm. If the selection is **THERMOCONTROL OFF**, the operating status of the appliance will appear on the display.

If the selection is **THERMOCONTROL ON**, the following information will appear on the display:



The figures relating to the Sensor S1 setting begin to blink. Press button [4] and/or [3] to set the action temperature for Sensor S1. Press button [2] to confirm.

Then the figures relating to the Sensor S2 setting begin to blink. Press button [4] and/or [3] to set the action temperature for Sensor S2. Press button [2] to confirm. At this point the appliance operating status will appear on the display.

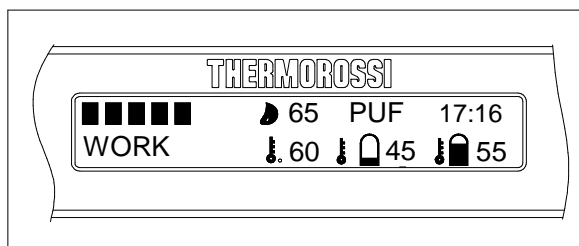


**CAUTION** : it is advisable to set the action temperature for sensors S1 and S2 as indicated in the hydraulic drawing in para. 5.



**CAUTION** : when THERMOCONTROL ON is set on the boiler, it starts up and shuts off autonomously only depending on the S1 and S2 temperatures that are detected and set in the Thermocell. In this case manual or programmed start ups and shut offs or those triggered by an external room temperature thermostat or by an external chronothermostat are completely ignored.

When **THERMOCONTROL ON** is selected the word **PUF** and the detected S1 and S2 temperatures are displayed during the operating phases (see the image below).

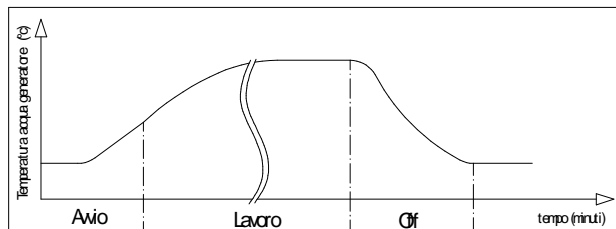


## 6.9 INFORMATION ABOUT HOW THE GENERATOR WORKS

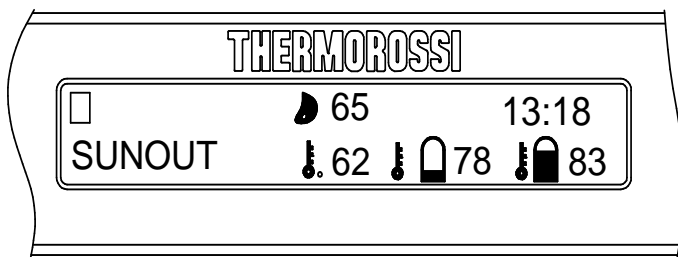
### 6.9.1 DESCRIPTION OF THE OPERATING FUNCTIONS

The main operating phases are the following:

- START** identifies the start up phase
- WORK** identifies the operating phase
- OFF** identifies the shut down phase
- STOP** identifies the phase in which the boiler exceeds a temperature of 80°C.



- WAIT ON** identifies the phase preceding start up when the temperature in the boiler is over 63°C.
- SUN OUT** identifies the excess heat dissipation phase (function only present when Thermocontrol is set on ON; see para. 6.8).
- START** has a duration of approx. 20 minutes, during this phase the generator is programmed to light the flame. For this reason the generator will not accept power variations in the firebox. The possibility of the generator not executing the lighting correctly can be attributed to the following factors: cleanliness of the generator, smoke exhaust particularly cold, sudden surges and drops in the electric power supply, fuel is too moist or does not comply with the specifications (see para. 3.2) .
- WORK** the duration depends on the ability of the system to receive heat. The generator's operating status is displayed.
- OFF** has a duration of approx. 20 minutes. In this phase the generator is switched off until a new "on" phase is initiated. The aim is to make the pellet embers in the burner die out completely. The temperature of the generator will drop until the system is completely cooled down. Moreover, once it has cooled down, it corresponds to the generator off status.
- STOP** If the temperature of the generator exceeds the 80°C threshold, the momentary shut off, identified as STOP, is activated. In this situation the generator is reactivated by means of a new START phase, as soon as the temperature drops below 58°C.  
CAUTION: The STOP phase allows the generator to begin a new START phase when the temperature drops below 58°C. Consequently, the temporary stopping of the generator is normal.
- WAIT ON** In the event of a hot restart (where the boiler temperature is above 63°C) the boiler does not start up immediately. The message WAIT ON appears on the display. When the boiler temperature reaches 58°C the lighting phase will begin, the message WAIT ON disappears and the word START appears.



**SUNOUT:** this function only activates automatically if the THERMOCONTROL setting is set on ON and if **Thermosole** solar panels are connected to the Thermocell. If Sensor S2 in the Thermocell detects a temperature exceeding 85°C in the OFF phase the word SUNOUT appears on the display accompanied by the pump active indicator and by the activation of smoke suction unit at the maximum power. When sensor S2 temperature drops to 75°C the word SUNOUT disappears and is replaced by the word OFF and at the same time the circulator pump and the smoke suction unit switch off. This guarantees the dissipation of the excess heat input from the solar panels: situation that can occur, in particular, during summer days.

### 6.9.2 SETTING RANGE

The heat transfer takes place according to the principle of anticondensation, that is by activating the pump at a threshold that, in this specific case, is 61°C. Activating the pump at a lower threshold leads to the formation of acid condensates which is extremely damaging for the generator components and could considerably affect its life. A temperature of 61° C, is therefore the lowest threshold in the settings range.

The maximum temperature possible for selection is 73°C; once this value is exceeded the machine runs at the minimum steady state level. The STOP phase trips if the 80 °C limit is exceeded. Select the temperature, by pressing button [2] on the control panel, from a settings range of 65°C to 73°C. Every time you press the button you will notice the symbol appear on the screen followed by the value in figures.

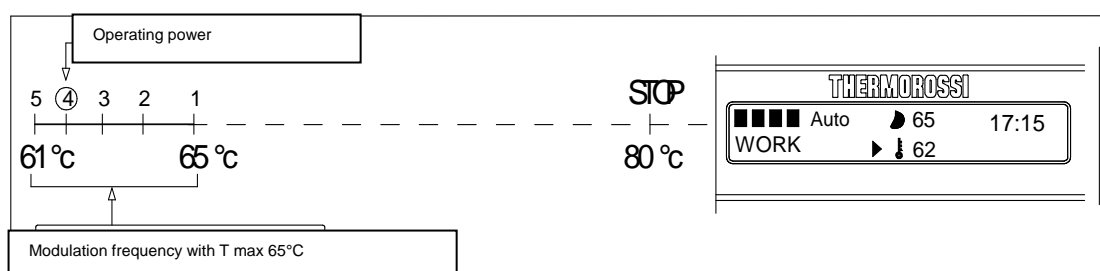
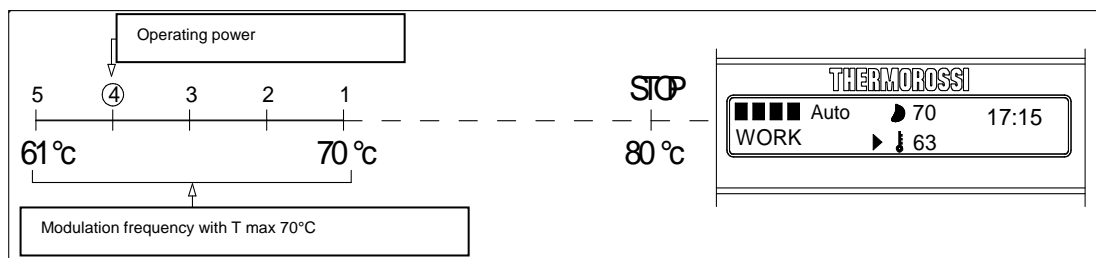
### 6.9.3 AUTOMATIC OPERATING CYCLE

In the automatic operating cycle the generator expresses its maximum flexibility of operation while optimising fuel consumption. To activate the AUTO cycle, select the power bars until the word **AUTO** appears. During the AUTO cycle the appliance automatically adjusts the combustion according to the water temperature in the boiler set with button [2]. If for example the temperature is set at 70°C the five speed levels will be automatically distributed between 61°C and 70°C so that with a temperature set at 70°C the appliance is at its minimum power level. If the value is increased or reduced by means of button [2] all the power levels will be

redistributed along the full temperature range. We therefore recommend finding the best temperature in order to optimise the full potential of the produced heat.

If the value is set at a high temperature, let's say 73°C, the appliance will attempt to reach that level as quickly as possible by modulating the power as it approaches the set temperature. It is not necessary to set high t max temperatures when the ambient conditions do not require them. Time and experience in using the appliance will give you the

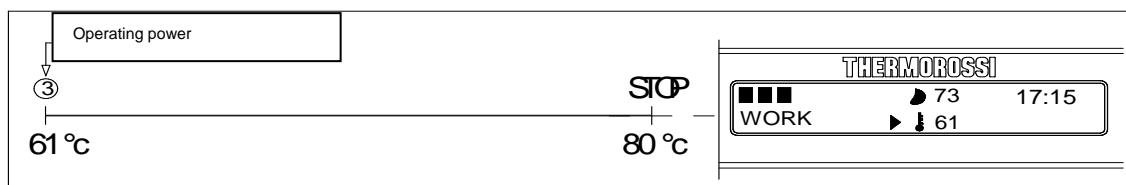
possibility of determining which are the most appropriate SET POINTS for your needs. If the combustion power is not absorbed by the system above a temperature of 80° C the appliance will temporarily shut down and the word STOP will appear in the display. Reactivation will occur automatically when the temperature drops to 58°C.



#### 6.9.4 MANUAL OPERATING CYCLE

The manual cycle is indicated on the display by the power bars. The power expressed in this cycle remains always constant independently from the power absorbed by the system. As always, the system's circulating pump is activated at the anticondensation temperature, that is above 61°C.

In the manual operating mode the power remains as set until the maximum temperature of 80°C is achieved, then the generator temporarily shuts off and displays the word STOP. Reactivation will occur automatically when the temperature drops to 58°C.



## 6.10 SWITCHING ON THE APPLIANCE



Before using the boiler check that all the movable parts are in place; also remove any labels and stickers from the glass to avoid that permanent traces remain on the surfaces. Verify that the electric and hydraulic connections have been made perfectly. Check also (during all the operating phases) that the firebox door and the ash pans are always firmly closed and positioned correctly.

Then carry out the following operations:

- Check that the hydraulic system has been correctly executed and has an adequate closed expansion tank to guarantee maximum safety.

The expansion must be calculated as specified in UNI 10412/2. Any damage to the plant and/or appliance will not be covered by warranty. The presence of an expansion tank in the boiler guarantees protection against the thermal expansion of the water only in the boiler NOT the whole system.

- Power up the appliance and turn the switch installed at the back of the boiler to position "1" (= ON).
- Fill the system using the inlet tap.

- Do not overdo the pressure in the appliance during the make-up phase : max pressure 1 bar.
- The water fill phase must be simultaneous with the air purge. Bleed the air with the help of a screwdriver or punch on the purge valve in order to accelerate the fill up process of the system.
- Connect the smoke exhaust to the appliance: we recommend against using aluminium tubes and we recommend always using sealing gaskets. Further information is given in paragraph dedicated to the smoke discharge of this use and maintenance booklet.
- Load the pellets into the hopper.
- Press the button [1] to begin the start up phase and the word **START** will appear on the display. Press the button [1] repeatedly to set the appliance in AUTO or manual operating mode. The mode will be activated at the end of the start up phase. Press button [2] to adjust the water temperature in the boiler that you wish to reach. During the 20 minutes of the start up phase any set thermal power level is ignored to deal with correct fill up and suction values preset by the Manufacturer. The electrical heater will start to overheat and only after a few minutes the first lot of pellets will start dropping into the brazier. This occurs because the screw feeder has to fill up because it is completely empty. The first time the boiler is started up the start up phase will have to be carried out twice for this very reason. Before beginning the second start up phase empty and vacuum the brazier.
- Check the pressure in the appliance system once again and if necessary bleed any air bubbles from the valve.



CAUTION: The start up phase (word **START** appearing on the display) takes approx. 20 minutes during which the appliance ignores any commands transmitted to it. After this time has elapsed the word **WORK** appears on the display.  
When the machine is in the running phase the combustion can be adjusted manually or in AUTO mode.



CAUTION: The circulator pump only activates when the temperature in the boiler reaches and exceeds 61°C.  
CAUTION: If the appliance does not start up correctly check that the brazier and electric heater are clean. It is very important to ensure that the tube lodging of the electric heater is clean; there must be no deposits or dust. It is recommended to perform this operation with an efficient vacuum cleaner.

## 6.11 ADJUSTING COMBUSTION

The thermal value is adjusted through 2 buttons [1] and [2] described in para. 6.1.

### 6.11.1 COMBUSTION ADJUSTMENT IN MANUAL MODE (see para. 6.9.3)

### 6.11.2 COMBUSTION ADJUSTMENT IN AUTOMATIC MODE (see para. 6.9.4)



CAUTION: The manufacturer denies all responsibility for the life of the electrical heater if subjected to excessive start ups. It is advisable, therefore, to set the correct power level.

## 6.12 SWITCHING OFF THE APPLIANCE



To switch off the appliance press the button [3] until the power bars on the display disappear [7].  
DO NOT shut off the heater by disconnecting the generator from the electric power outlet. This operation could generate smoke that may not be evacuated due to the construction characteristics of your system's smoke discharge tube and chimney.  
The shut down time for the smoke exhaust is roughly 25 minutes.

## 7 ADDITIONAL ROOM TEMPERATURE THERMOSTAT / ADDITIONAL CHRONOTHERMOSTAT (not supplied)

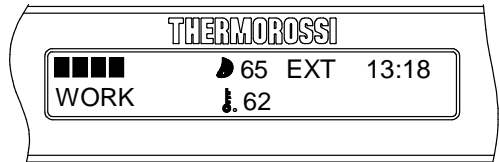
The control panel ensures that your boiler is provided with all the required programming and temperature adjustment functions: In the boiler's electronic board compartment there are cable clamps marked with the letters TA, CM and CT.  
The setups refer to two operating modes:

- With the room temperature thermostat (by connecting an additional room temperature thermostat to contacts TA and CM).
- With the chronothermostat or modem (by connecting an additional chronothermostat or modem to contacts CM and CT).



The contacts TA, CM and CT are defined as “potential free” contacts and they must never be powered with 220 V. If the board is powered with 220 V or in any case with voltages greater than 6 V, the control board will be damaged permanently, and the warranty conditions voided.

When the external room temperature thermostat or the external room temperature chronothermostat trips and switches on the generator, the word **EXT** appears on the display.



## 7.1 OPERATING WITH THE ADDITIONAL ROOM TEMPERATURE THERMOSTAT (NOT SUPPLIED )

An additional thermostat can be installed by connecting it to the two contacts labeled TA and CM inside the electronic board compartment. It has a “potential free” contact, that is a low voltage contact. The operating principle is as follows:

- When the room temperature reaches the set value, the thermostat closes the contact (the words “**TEMP OK**” appear on the screen and the boiler positions itself at the minimum combustion power (the 1st power bar appears on the display). After a few minutes, the circulator pump symbol disappears from the display and it shuts off.
- When the room temperature drops the thermostat opens the contact and the boiler returns to its original position in terms of thermal power.



**CAUTION:** N.C. (normally closed) contacts must be used for the connection to the additional room temperature thermostat. Do not power the contacts with voltages greater than 6V, as this would cause serious damage to the control panel which is not covered by warranty.

## 7.2 OPERATING WITH THE ADDITIONAL CHRONOTHERMOSTAT (NOT SUPPLIED)

As an alternative to the room temperature thermostat a chronothermostat can be installed and connected to the contacts provided inside the electronic board compartment. The contacts are labeled CM and CT. Using this output when the chronothermostat contact closes the START cycle begins, whereas when the contact opens the OFF cycle begins. When the chronothermostat is active, the appliance can not be shut off except from the additional chronothermostat.



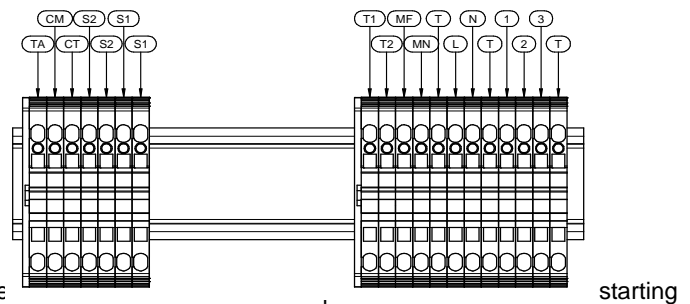
**CAUTION:** The manufacturer denies all responsibility for the life of the electrical heater if subjected to excessive start up cycles. Consequently, it is advisable to set the chronothermostat appropriately.

**CAUTION:** Use N.O. (normally open) contacts for the connection to the chronothermostat. Do not insert direct 220V power, or any power greater than 6V as, as this would cause serious damage to the control panel which is not covered by warranty.

**CAUTION:** In the event of connections to the chronothermostat The up, smoke leaks, breakage of the lighting component. In the event of a programmed cycle on always ensure that the brazier is clean.

**CAUTION:** when using the chronothermostat program up to a maximum of 3 on-off cycles. Do not set the boiler temperature or set it at the highest value.

The chronothermostat must have a thermal hysteresis that is not less than 2°C.



## 8 CLEANING AND MAINTENANCE

### 8.1 FOREWORD



Before beginning any maintenance operation ensure that the appliance is in the OFF phase and always disconnect it from the electric power outlet. Your pellet boiler is a solid fuel generator: it requires frequent controls and general cleaning operations. This will guarantee regular operation and optimal output at all times. If the product is unused for a prolonged period of time it is mandatory to inspect the smoke channel and outlet to ensure that there are no obstructions before starting up. It is important to carefully follow the instructions set out below: failure to observe these instructions could cause serious damage to the product, to the system, to objects and to persons using the generator. Warning: do not wet the appliance and do not touch the electrical parts with wet hands. Never vacuum hot ash: this could damage the vacuum device. All the cleaning operations described in this manual must be carried out when the appliance is cold.

**The user must periodically clean the boiler, or have an authorised service centre clean it, as described in this manual. Moreover, once a year it is advisable to have an inspection carried out of the hydraulic system and the functionality of the flue outlet.**



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## 8.2 CLEANING AND MAINTENANCE



Due to the frequent cases we have encountered of the use of poor quality pellets, users are advised that it is mandatory to use, in this generator, pellets certified in accordance with the regulations in force for the Italy UNI market or for the European EN market. If this requirement is not observed the result will be unsuitable combustion, consequently, the electrical and electronic components will be subjected to very high temperatures and will not be covered by warranty.

NOTE: the devices installed to evacuate the ash do not replace the normal cleaning and inspection of the generator. Note also that the generator is powered with solid fuel, having characteristics that can be very different and varied in terms of percentage of ash formed during combustion, and therefore not foreseeable.

**Unless otherwise instructed, the operations described below are mandatory and not postponable beyond the specified times.**

### **EVERY WEEK:**

- Open the firebox door and check that the area where the Pelletpower® scraper works is sediment-free.
  - Check that the holes of the burner and the heater lodging channels are completely sediment-free. If necessary vacuum and clean.
  - Remove, if present, all silica agglomerates; they indicate poor quality fuel.
- N.B.: The weekly control can be put off for another week if the appliance is reasonably clean; it depends greatly on the quality of the fuel.

### **EVERY MONTH:**

- Inspect and clean the Tee-joint of the smoke exhaust pipe.
- Vacuum, when empty, the saw dust on the bottom of the pellet tank.
- Check that the smoke exhaust pipe is free from any ash deposits, above all in the initial parts that could have a smaller section.

### **EVERY TWO MONTHS:**

- Vacuum the combustion residues from the area under the brazier by inserting the vacuum tube in the inspection hole indicated in Fig. 3, to about 80 cm.
- Unscrew the top cover and vacuum any ash found in the top compartment (Fig 4 and Fig 5)

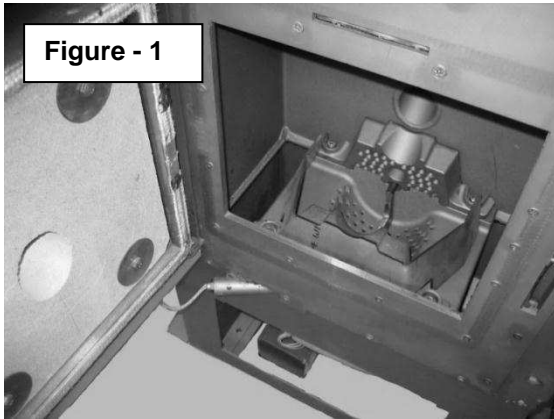


Figure - 1

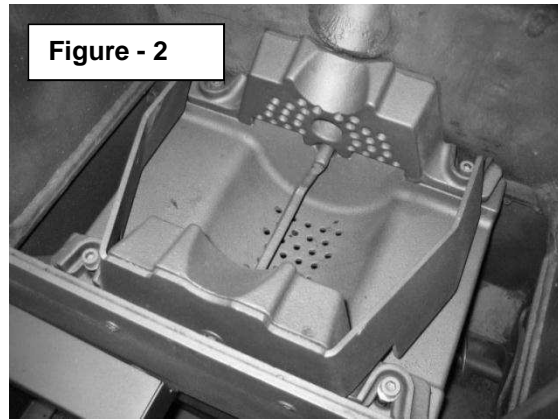


Figure - 2

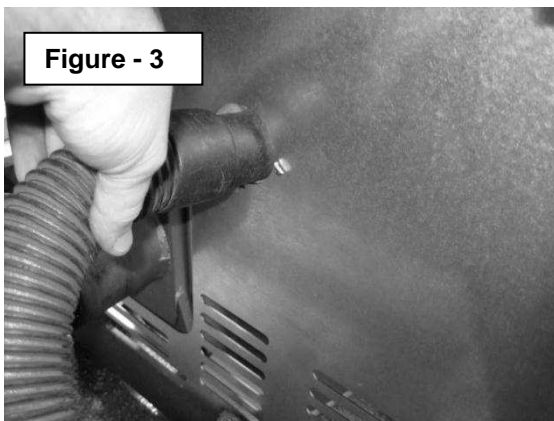


Figure - 3



Figure - 5



Figure - 4

**Caution:** take special care when handling the cover and avoid knocking or dropping it; accidental breakages are not covered by warranty.



**Attention:** to guarantee correct and optimal combustion it is very important to correctly and hermetically close the door and the top cover after servicing. This will avoid messages such as: "Start up failed clean the burner", "P GAS".

**AT LEAST TWICE A YEAR**

- Clean the flue outlet. If there are any horizontal sections, inspect them and clean out any ash and soot deposits before they block the passage of the flue gases.

**AT THE END OF THE WINTER SEASON** (or whenever necessary)

- Perform a thorough overall cleaning of the firebox and pans with brushes and vacuum cleaners.



A vacuum device simplifies the cleaning procedure. The boiler must be completely cooled down before the side panel can be cleaned with a soft cloth and water. It is also normal to find partially or totally unburned pellets in the ash pan. When the combustion chamber door is opened it is normal for the ash to drop to the floor.



**CAUTION:** after cleaning it is mandatory to carefully check that the combustion chamber door is firmly closed and airtight. Moreover check that the ash trolley is installed correctly.



**CAUTION:** the smoke channel and flue outlet generator must be cleaned in accordance with the specifications described above and use of inflammable products is strictly forbidden. Using inflammable products can create dangerous situations. Failure to carry out the necessary maintenance or if only partial maintenance is carried out will affect the correct functioning of the appliance. Any problems resulting from total or partial lack of cleaning or maintenance will immediately void the warranty.

**CAUTION:** if the appliance remains inactive (not used for over a month) the generator, the smoke discharge tube and the flue outlet must be thoroughly cleaned and checked for any possible obstructions (e.g. birds or wasp nests) before restarting.

**CAUTION:** it is normal for some pieces, depending on the size (length) of the pellet, to fall from the burner to the ash pan. To reduce the occurrence of this phenomenon it is advisable to keep some ash on the side of the burner (Photo – 8).

### 8.3 AUTOMATIC AND MANUAL ASH REMOVAL

As well as partial cleaning that takes place at each startup and that lasts for 1 minute, the appliance is designed for the automatic removal of ash which depends on the actual number of hours that it has worked. The electronic board is fitted with a timer that detects the hours of operation of the pellet feed ratiomotor and consequently the quantity of pellets consumed; after every 30 hours of work, the appliance automatically activates, only in the “Work” cycle, the cleaning and ash removal procedure. The words “Ash Removal” flash on the display and simultaneously the “OFF” cycle activates. After 20 minutes, the automatic cleaning cycle begins and the words “Ash Removal” remain steady on the display. After three minutes, the appliance starts up and returns to the initial condition.

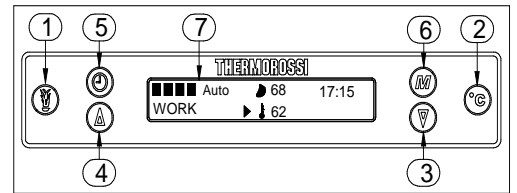
#### 8.3.1 MANUAL ASH REMOVAL

To start the ash removal cycle manually, carry out the following procedure:



**CAUTION:** the manual ash removal, can only be activated in the “OFF” status.

- Press the button [6] until the text “AUTO ASH REMOVAL” appears on the display [7].
- Press the button [4] and the text “MANUAL ASH REMOVAL” appears on the screen [7].
- Press [2] to confirm. The appliance activates the cleaning cycle for 3 minutes.



### 8.4 REMOVAL AND CLEANING OF THE ASH TROLLEY

Remove the "ash trolley" pan only when the generator is switched OFF, the smoke exhaust fan is off, there are no pellets or embers alight in the burner. Proceed as described below:

- Lift the release levers with both hands.
- Pull out the “ash trolley” and insert the transparent plastic caps (supplied) in the trolley tubes.
- Release the cover from the fixing hooks and remove it.
- Remove the ash;
- Re-insert the top cover of the “ash trolley”, engage it to the hook, and remove the plastic caps.
- Line up and carefully insert the "ash trolley" making sure that the tubes are correctly inserted in their seats, then lower the levers to anchor it.



**CAUTION IMPORTANT:** if the trolley is removed during normal operation of the boiler, this action will block the pellet feed and force the boiler to shut off.

## 9 – SMOKE DISCHARGE TUBE AND VENTILATION OF THE ROOMS

### 9.1 FOREWORD



Due to the frequent accidents caused by poor functioning of flue outlets installed in private dwellings, we have prepared the following paragraph to assist the installer in his inspection of the parts concerned with eliminating the gases produced by combustion.



The smoke outlet must be fitted in compliance with standard UNI 7129/92, UNI 10683 and EN 14785 and it must observe the reference values laid down in the standard, in particular, the outlet must comply with fire prevention regulations.

**It is important to carefully follow the instructions set out below: failure to observe these instructions could cause serious damage to the product, to the system, to objects and to persons using the generator.**

## 9.2 ROOM VENTILATION



CAUTION: the presence of extraction fans or similar appliances, if operating in the same room or space in which the product is installed, could cause problems for the correct operation of the product.

CAUTION: do not obstruct the vents or the air inlets on the appliance.

The room where the appliance is installed must have a good air flow to guarantee air for the appliance for the combustion process and for ventilation of the room. The natural air flow must take place directly through permanent openings on the outer walls or through single or multiple ventilation ducting (paragraph 9.2.1).

The ventilating air must come from outside and if possible, away from sources of pollution. The openings in the walls must comply with the following conditions:

- have an unobstructed section of at least 6cm<sup>2</sup> for each Kw of installed thermal power, with a minimum limit of 100cm<sup>2</sup>;
- be made in such a way that the vent openings, both on the inside and outside of the wall, cannot be obstructed;
- be protected with grills or similar systems that do not reduce the opening section indicated above;
- be situated at a height near floor level and they must not obstruct the correct operation of the combustion product discharge devices; if this position is not possible the section of the ventilation openings must be enlarged by at least 50%.

### 9.2.2 VENTILATION OF THE ADJOINING ROOMS

The air flow can also be obtained from an adjacent room as long as:

- the adjoining room is equipped with direct ventilation in compliance with the paragraphs described above;
- only appliances connected to the exhaust pipe are installed in the room that is ventilated;
- the adjoining room is not used as a bedroom or a common area of the building;
- the adjacent room is not a room with a fire hazard, such as storage sheds, garages, combustible material store rooms, etc...;
- the adjoining room does not become a vacuum compared to the room to be ventilated due to a reverse draught effect; (the reverse draught can be caused by the presence in the room of either another heating appliance running on any type of fuel, a fireplace, or any suction device, which have not been provided with an air intake);
- the air flow from the adjoining room to the room to be ventilated is unobstructed through the permanent apertures having an overall net section of no less than that indicated above. These apertures can be obtained by enlarging the space between the door and the floor.

### 9.2.1 SINGLE OR MULTIPLE VENTILATION DUCTING

If the combustion air is supplied through pipes, the available draught, produced by the installed appliance in use and by the corresponding combustion product evacuation system, must be greater than the sum of the resistance offered by the pipes (frictional resistance, resistance due to direction changes, cross-sectional restrictions, etc...).

The single ventilation pipes can be vertically and horizontally oriented: the length of the horizontal sections must be reduced to a minimum.

The connectors between pipes with different orientations must not have any reduced cross-sections with sharp bends.

The angle of connection between the axes of two successive pipes must not be less than 90°.

For combustion air supplied through branched pipes, the sum of the resistance offered by the pipes (frictional resistance, resistance due to direction changes, cross-sectional restrictions, etc...) can be a maximum of 10% of the available draught, produced by the various appliances in use installed on the various floors and by the combustion product evacuation system.

The branched ventilation pipes must be vertically-oriented with an uphill run.

The inlet vent to the room to be ventilated must be located down low and in a position where it does not interfere with the discharge of combustion products and must be protected by a grill or similar device.

### 9.3 SMOKE OUTLET



The smoke channel, the exhaust pipe, chimney and flue outlet (defined as the system for the evacuation of combustion products), are parts of the heating system and they must comply with the legislative requirements of the Ministerial Decree DM 37/08 (ex Italian Law 46/90) and to the applicable specific installation regulations, according to the type of fuel. Fireplaces, heaters and barbecues must not be installed in locations where gas appliances type A and type B are present and operating (for the classification see UNI 10642 and UNI 719). The connection between the appliance and the flue outlet must only receive exhaust from one heat generator.



The installer must provide one or more access points on the flue outlet to check the emissions once the appliance has been installed; these access points must be made in such a way as to be air-tight sealable to prevent exhaust gas leaks.



The appliance is equipped with a smoke exhaust motor, it works in low pressure and with very low smoke temperatures, consequently it is recommended to insulate it and to ensure that the flue outlet is sized appropriately in order to avoid the possible risk of creating condensation.

#### 9.3.1 CHIMNEY TYPES

The following types of chimneys, constructed as described, are possible:

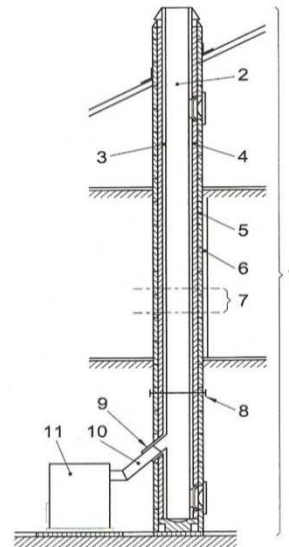
- System: Chimney installed using a combination of compatible components (flue liner, insulation, outer casing etc...), constructed or specified by a single manufacturer and CE certified in accordance with the applicable standard;
- Composite chimney: Chimney installed or constructed on site using a combination of compatible components such as flue liner (wall directly in contact with the smoke), and possibly also insulation and outer casing (wall) that may be supplied by different manufacturers or by the same manufacturer.
- Relining: operation involving the installation of a specific pipe in an existing shaft (even if newly constructed) made of non-combustible materials, free from obstructions and for single use.

#### 9.3.2 FLUE OUTLET / FLUE SYSTEM COMPONENTS

Every chimney must have minimum number of components as laid down by standard UNI EN 1443 which are also indicated in the figure below:

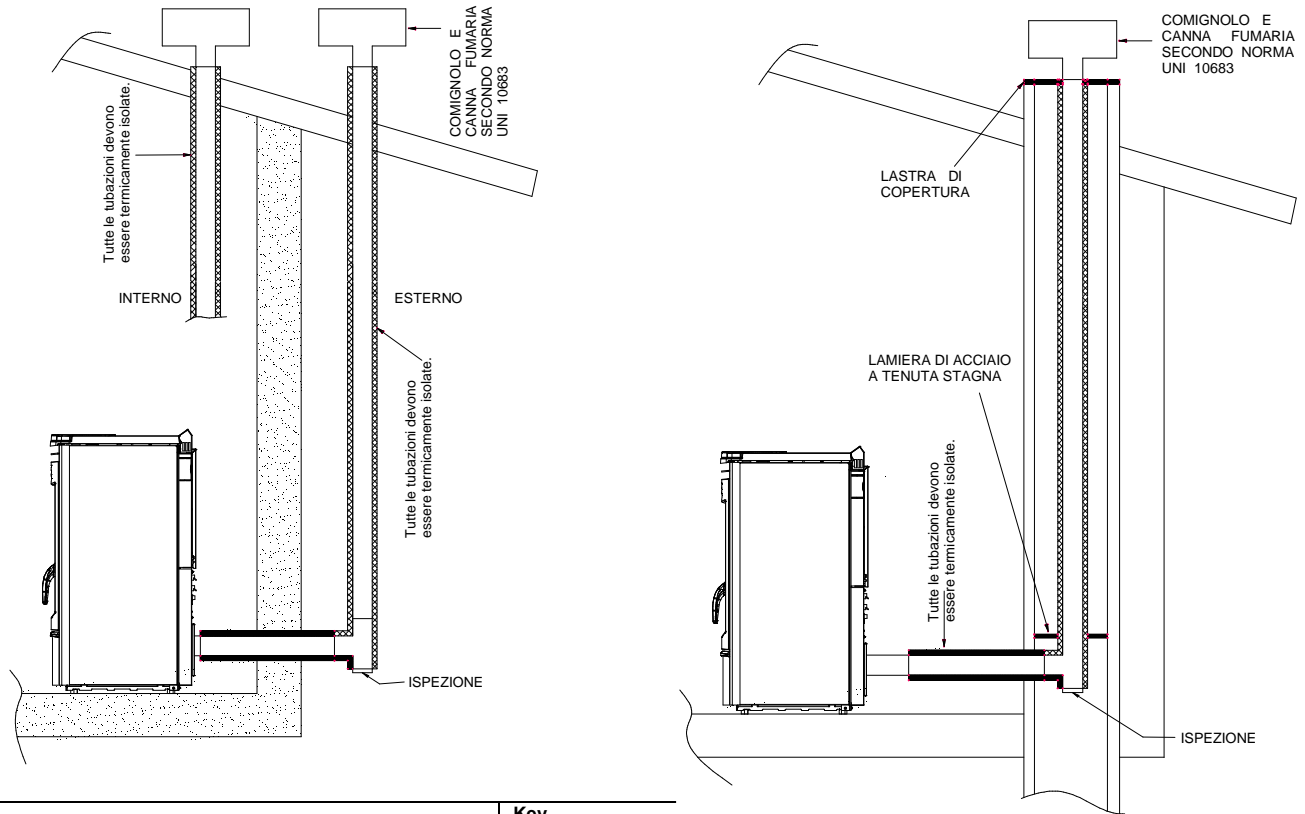
Components and accessories of a chimney

- Key
- 1 Chimney
  - 2 Flow path
  - 3 Smoke discharge tube
  - 4 Thermal insulation
  - 5 External wall
  - 6 Outer lining
  - 7 Flue outlet section
  - 8 Multiwall chimney
  - 9 Connector
  - 10 Flue pipe
  - 11 Heat generator





Wall outlet: Outlet installed on the outer front wall without the use of a chimney/flue outlet /flue pipe to convey the combustion products to the roof. It is always forbidden in all cases where solid or liquid fuel is used and in all heat control units.



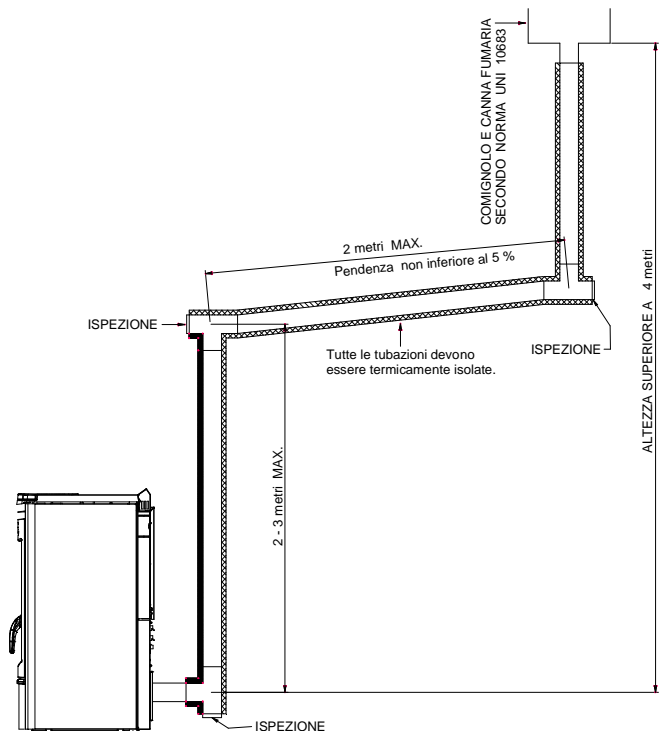
Legenda	Key
Tutte le tubazioni devono essere termicamente isolate	All the pipes must be thermally insulated
COMIGNOLO E CANNA FUMARIA SECONDO NORMA UNI 10683	CHIMNEY CAP AND FLUE OUTLET ACCORDING TO UNI 10683 STANDARD
INTERNO	INTERNAL
ESTERNO	EXTERNAL
ISPEZIONE	INSPECTION
LASTRA DI COPERTURA	COVER SLAB
LAMIERA DI ACCIAIO A TENUTA STAGNA	WATERTIGHT STEEL SHEET
2 metri MAX (pendenza 3% - 5%)	2 metres MAX. (slope 3-5%)
Altezza superiore a 4 metri	HEIGHT MORE THAN 4 m.

### 9.3.3 CONTROLS PRIOR TO INSTALLING THE APPLIANCE

The user must possess a certificate of conformance for the flue outlet. (Ministerial Decree 22 January 2008, no. 37).

The flue outlet must be built in compliance with UNI 10683.

The smoke exhaust shown in the following figures is the best solution to ensure the discharge of smoke even when the fan is not operational, such as for example if there is an electrical power failure. A minimum drop of 1.5 metres is required between the T terminal on the outside of the building and the outlet at the back of the generator, to ensure that residual combustion smoke is discharged in the case described above (otherwise the residues would stagnate inside the firebox and exhaust into the environment with added the possibility of explosions). The figures illustrate the best solution for discharging the smoke out through the roof or into the flue outlet.



If you prefer to exhaust the smoke from the roof insert a union tee with inspection cap, connecting brackets suitable for the height of the flue outlet, flashing that crosses the roof and chimney cap to protect against bad weather conditions.

If you decide to use the classic masonry exhaust provide a T-union with inspection cap

and suitable supporting brackets. If the flue outlet is too big it is necessary to insert a stainless steel or porcelain-coated steel tube with a diameter not exceeding 150mm. Seal area where the inlet and outlet part of the smoke exhaust meets the wall. It is strictly forbidden to apply mesh to the end of the outlet tube, as it could cause the appliance to malfunction. If the smoke tube is installed in a fixed position it is advisable to provide inspection openings for clean-out purposes especially in the horizontal sections. See the diagram. These openings are essential to allow for the removal of ash and unburned products which tend to accumulate along the discharge path. The appliance operates with the pressure in the combustion chamber lower than atmospheric pressure, whereas the discharge of smoke to the chimney is slightly pressured, consequently the discharge system must be hermetically sealed. The smoke discharge tube must be made from suitable materials such as for example: porcelain-coated steel tubes, and the various fittings sealed with red silicone (resistant to 350°C). The outer casing of the tube must be made with insulating material (mineral wool, ceramic fiber) or use pre-insulated tubing.

THE FLUE OUTLET MUST BE USED ONLY FOR THE APPLIANCE.



It must be possible to inspect and remove all the smoke tube sections for clean-out purposes.

**CAUTION:** if the flue outlet is not sufficiently insulated and /or if it is too long it could generate condensation. It is advisable to provide a condensation drain near the smoke outlet of the appliance. The appliance must always and only be installed in a single flue outlet system dedicated exclusively to the appliance.

If the generator is connected to a non-compliant flue system the appliance could rapidly deteriorate due to an abnormal, continuous overheating: in this case the damaged parts will not be covered by warranty.

**IF THE CHIMNEY CATCHES FIRE DO NOT HESITATE TO CALL THE FIRE BRIGADE IMMEDIATELY.**

## 10 – ALARMS

The appliance is programmed to communicate three fundamental alarms.

In detail the alarms appear as follows:



### **Pellets finished clean the burner**

This alarm appears when, in **Work** status, there is a drop in the temperature of the smoke at the outlet, below 42°C. The appliance is switching off or switched off due to lack of pellets.

### **Start up failed clean the burner**

This alarm appears when, in **Start** status, the temperature of the smoke at the outlet, does not exceed 42°C.

### **P GAS**

Is displayed when the smoke outlet is partially blocked.

To reset the alarms, it is necessary, with the appliance in standby, to disconnect the power by acting on the switch 0-1 located on the control panel and restore power after waiting at least 5 seconds.

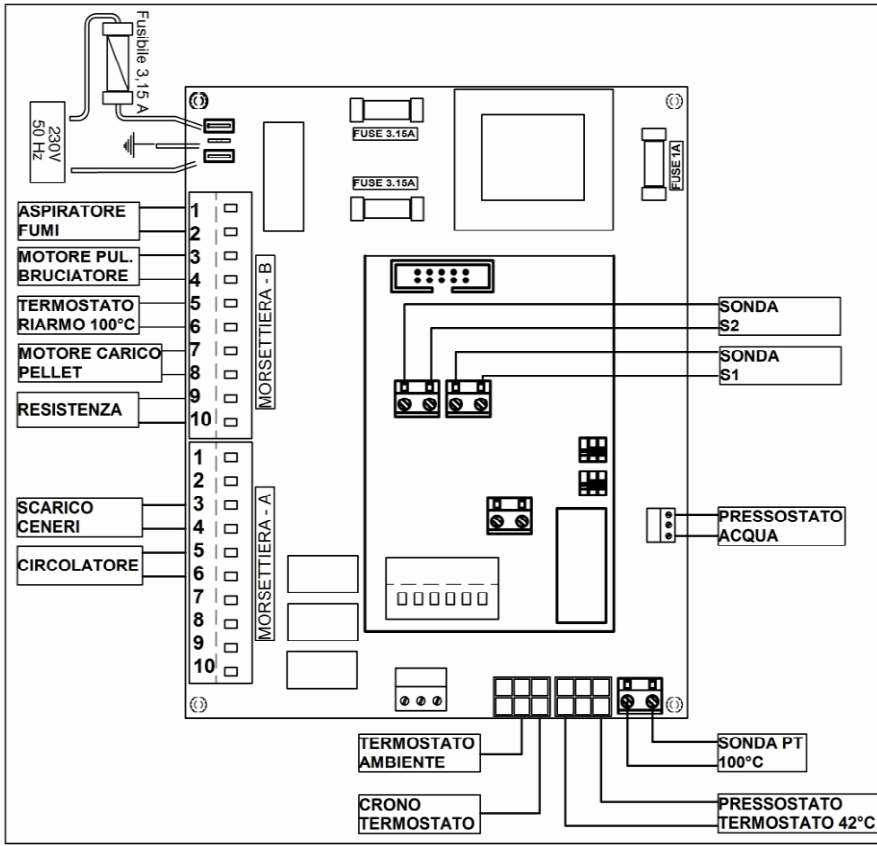
### 10.1 “ALARM F1”

For the safety of the user, a further alarm has been included which appears on the display as “ALARM F1”.

If, during a “**Work**” or “**Start**” cycle of the appliance, the door of the combustion chamber is opened or the ash pan is removed for longer than 90 seconds, the system makes the appliance safe by switching it to the “**Off**” cycle.

To restart the appliance press the “**Start**” button.

## 11 - ELECTRICAL WIRING



Legenda	Key
Fusibile 3.15°A	Fuse 3.15°A
ASPIRATORE FUMI	SMOKE SUCTION UNIT
MOTORE PUL. BRUCIATORE	CLEANING MOTOR BURNER
TERMOSTATO RIARMO 100 °C	RESET THERMOSTAT 100°C
MOTORE CARICO PELLETT	PELLET FEED MOTOR
RESISTENZA	HEATER
SCARICO CENERI	ASH DISCHARGE
CIRCOLATORE	CIRCULATING PUMP
SONDA S1 – S2	SENSOR S1 – S2
PRESSOSTATO ACQUA	WATER PRESSURE SWITCH
SONDA PT 100°C	SENSOR PT 100°C
TERMOSTATO AMBIENTE	ROOM TEMPERATURE THERMOSTAT
CRONO TERMOSTATO	CHRONOTHERMOSTAT
PRESSOSTATO TERMOSTATO 42°C	THERMOSTAT 42°C PRESSURE SWITCH



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## **12 - INFORMATION FOR THE SKILLED TECHNICIAN**

### **12.1 MAIN COMPONENTS AND THEIR POSITION**

#### SMOKE PRESSURE SWITCH

This is a safety switch that stops the screw feeder motor whenever necessary. The main cause for the pressure switch tripping is a blocked flue outlet or smoke exhaust pipe. Note that it is strictly forbidden to apply any kind of mesh screen to the end of the pipe. When the holes of the mesh clog up they create a plug that trips the pressure switch which stops the pellet feeder.

#### PRIMARY AIR PRESSURE SWITCH

This is a safety switch that stops the screw feeder motor whenever necessary. The main reason for the pressure switch to trip is the opening of the boiler door or the removal of the "ash trolley". For this reason it is strictly forbidden to open the door while it is operating.

#### SCREW FEEDER MOTOR

This motor is powered at regular on/off intervals controlled by a microprocessor. The operation of this motor is affected when: The motor's thermal cutout trips; the pressure switch trips due to blocked smoke exhaust; the generator is shut down intentionally or the heater shuts down because it runs out of pellets; the manual reset thermostat trips.

#### SMOKE SUCTION UNIT

This is activated when the start up signal is given. In the first two minutes it activates at the maximum speed. Once this time has elapsed (2 minutes) it self-adjusts to the optimal speed. To permit evacuation of the smoke and for greater safety of the system, the exhaust continues to operate for about an hour after the boiler has been switched off and in any case for 30 minutes from the opening of the thermostat at 42°C.

#### BRAZIER CLEANING MOTOR

This is a patented system that creates a continual movement of the combustion pellets inside the burner which consequently cleans the burner.

#### ASH EXTRACTION RATIOMOTOR

The ratiomotor activates the cleaning of the smoke circuit pipes with an automated movement of the internal scrapers and activates the augers that evacuate of the ash from the appliance to the "ash trolley".

#### THERMOSTAT 42°C

Its function is critical for the following reasons: When the contact closes the boiler powers up and the working cycle starts. Similarly, when the contact opens the smoke exhaust stops.

#### EXPANSION TANK 8 litres

This is a safety device intended to compensate for the increased volume of the water in the boiler caused by the increase in the water temperature ( Note: this tank is a protection for the boiler only).

#### SAFETY THERMOSTAT WITH MANUAL RESET

When the temperature exceeds 98°C the pellet feed screw shuts down. A red light on the control panel of the appliance remains lit. Once the causes for the overtemperature have been identified and remedied the appliance can be reactivated by unscrewing the plastic cover of the thermostat located next to red light and pressing the button (the boiler temperature must be below 73 °C ).

#### SPARK PLUG

It is activated in the START phase. It heats the incoming air to the brazier up to 800°C, which promotes the first combustion of the pellets in the brazier.

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#### AUTOMATIC PURGE VALVE

The function of this valve is to eliminate air residues inside the appliance body without the need for manual intervention. Consequently problems such as the following are eliminated:


- corrosive processes caused by the oxygen
- noise generated by the passage of air in the tubes
- air pockets in the heating bodies
- cavitation in the circulator pumps.

#### SAFETY VALVE CALIBRATED AT 3 BAR

When the calibrated pressure is reached, the valve opens and, by discharging to the atmosphere it prevents the pressure in the system from reaching dangerous limits for the generator and for the components of the system. If it trips verify the reasons and solve the causes for the overpressure.

It is recommended to connect this valve to an outlet to avoid damaging the material around the boiler and to prevent damage caused by hot water under pressure.

#### SYSTEM CIRCULATING PUMP

This device conveys hot water produced by the appliance to the usage points. The pump signal  appears to indicate that it is operating.

#### THERMOSTAT 42°C

Its function is critical as the closure of the contact results in the startup of the boiler and therefore the continuation of the operating cycle. Similarly, when the contact opens the smoke exhaust stops.

## 12.2 GUIDELINES FOR CORRECT INSTALLATION

- Read this instruction booklet.
- The appliance must always be switched off from the control panel. It is forbidden to switch off the appliance by means of the switch installed on the back of the heater.
- The appliance must never be disconnected from the electrical power supply and the power supply must never be cut off during normal operation. Whenever the appliance is deliberately disconnected from the electric power supply smoke could be emitted into the room.
- Do not install the appliance with horizontal wall outlets only: Evacuation of products of combustion by natural draught must always be guaranteed as well. Unsuitable installation of the outlets could cause a forced shut down of the appliance due to overpressure of the exhaust smoke caused by a gust of wind.
- At the first startup, run the heater at the maximum power in a well-ventilated room, in order to dispose of the smoke generated by the complete dryness and baking of the silicates contained in the enamel coating of the combustion chamber.
- Do not install a grill or outlet terminal that could slow down the flow of the combustion gases: this would obviously cause the appliance to malfunction.
- Keep the appliance clean and check the burner as described in these instructions.
- Clean the smoke outlet regularly.
- Use good quality pellets: use of poor pellets can result in up to 50% less efficiency.
- The pellets must be stored in a well-ventilated, dry place.
- Sizing of the chimney liner: painted aluminized steel tubes (1.5 mm minimum thickness), Aisi 316 stainless steel tubes or 0.5 mm enamelled tubes may be used. Minimum vertical length 4 m / Maximum vertical length 8 m / Length with minimum slope 5% 0.5 m Maximum number of elbows at least 0.5 m apart: 2
- The generator door must always remain closed during normal operation.
- Do not touch hot outer surfaces, unless with special equipment.
- Do not pour the pellets directly into the brazier.
- Keep fuel and inflammable materials at a suitable distance.
- Use only original spare parts supplied by the manufacturer.

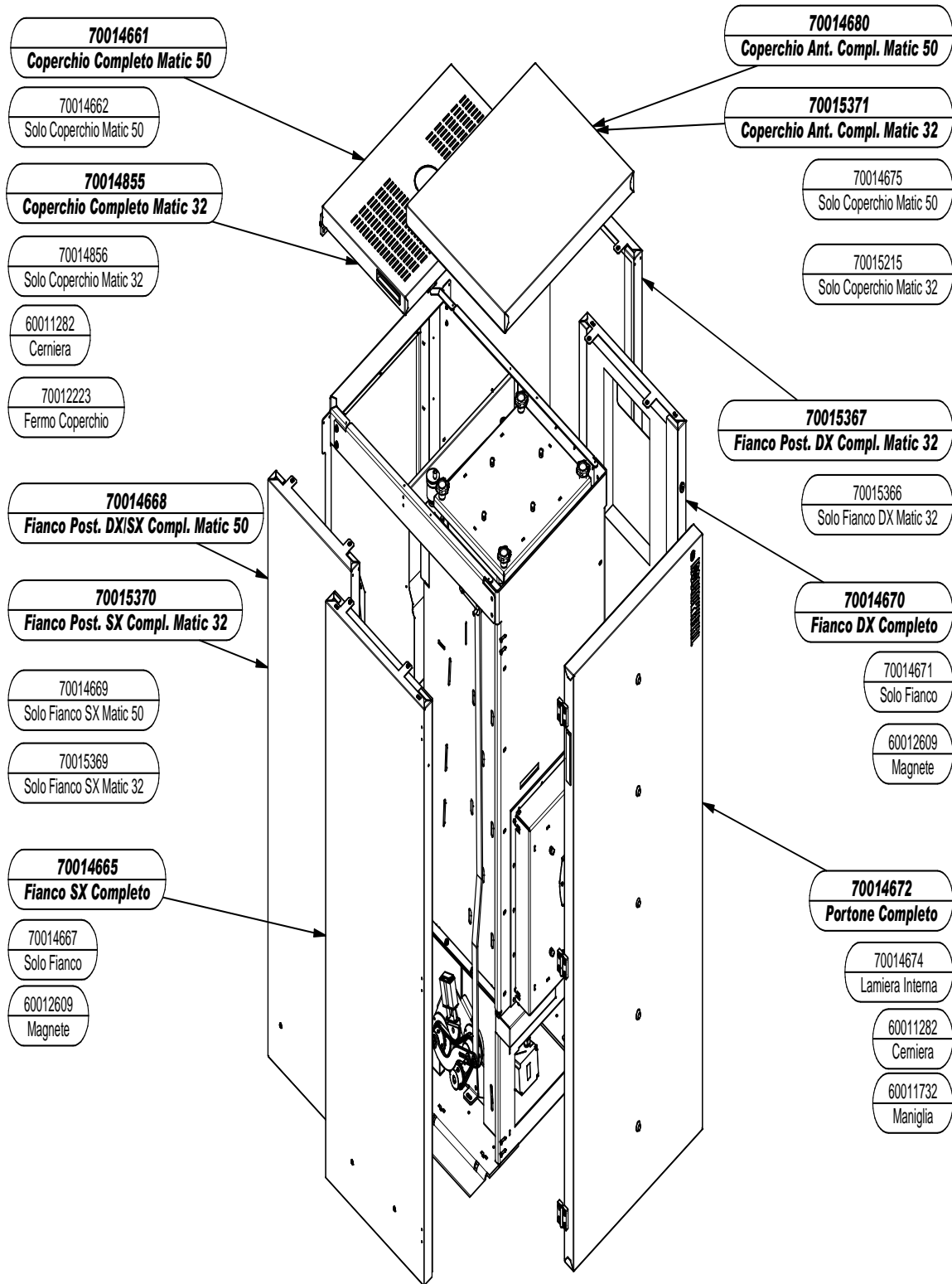
## 12.3 TROUBLESHOOTING CAUSE / SOLUTION

PROBLEM	CAUSE	SOLUTION
PELLETS DO NOT DROP INTO THE BURNER	Pellet tank is empty	Empty the burner and clean it as indicated in this manual
		Fill up the tank with pellets
	Foreign body such as nail, nylon, piece of wood on the feeder screw on the bottom of the tank	Remove the foreign body
	Smoke exhaust not free, or with terminal that obstructs the passage of smoke	Empty the burner and clean it as indicated in this manual Check the smoke exhaust as it could be dirty or clogged
	Outlet terminal clogged because a grill or terminal has been inserted which prevents the free passage of smoke	Empty the burner and clean it as indicated in this manual Remove the terminal and replace it with a more suitable one.
	Sudden gust of wind which has made the appliance go into safety mode	Switch the power supply to the appliance off then back on again
	The ash pan position is not correct / no ash pan	Position the ash pan correctly
	Microswitch that detects the presence of the ash pan in an incorrect position.	Check that the microswitch activates when the pan is inserted. Position the microswitch correctly
The boiler door is open	Close the door	

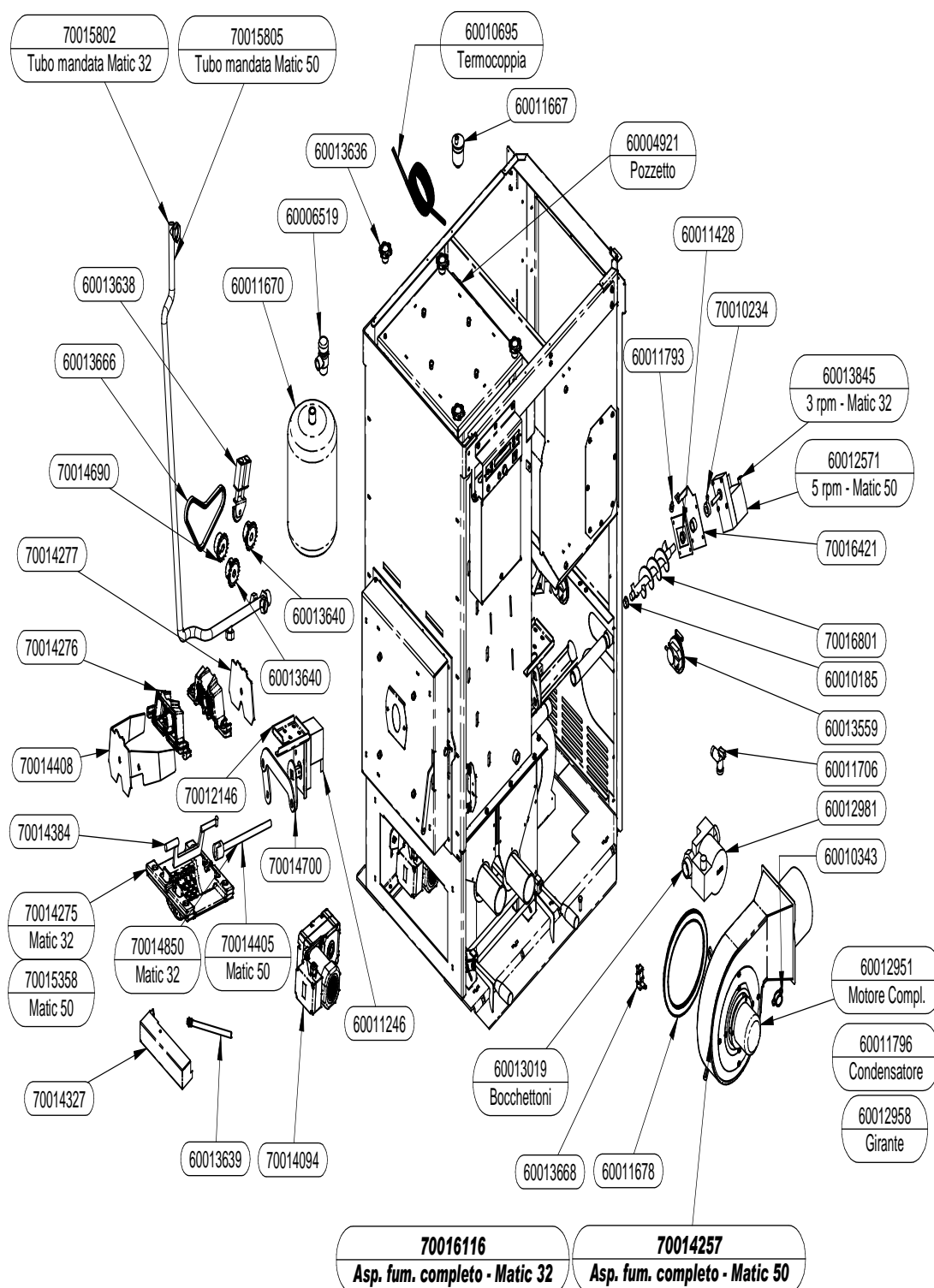
PROBLEM	CAUSE	SOLUTION
THE APPLIANCE ACCUMULATES PELLETS IN THE BRAZIER WHILE OPERATING	Smoke exhaust not free, or with terminal that obstructs the passage of smoke	Empty the burner and clean it as indicated in this manual Check the smoke exhaust as it could be dirty or clogged
	Burner is dirty	Empty the burner and clean it as indicated in this manual Clean the burner more frequently
	Pellets with deposit above permissible limits	Empty the burner and clean it as indicated in this manual Clean the burner more frequently Set the operating program P2
THE APPLIANCE SMOKES	Occurs the first time the appliance is switched on as the silicone paint is being baked	Run the appliance at the maximum for about 10 hours to dry the paint.
	The smoke exhaust is not sealed correctly	Make sure that the gaskets have been fitted to the smoke exhaust pipes
	If the appliance begins to produce smoke 25 minutes after startup. Delayed start.	Empty the burner and clean it as indicated in this manual The pellet feed screw was empty because the pellets are finished. Fill the tank, clean the burner and restart.
THE APPLIANCE SHUTS OFF 5 MINUTES AFTER THE END OF THE START UP CYCLE	Delayed start because the screw feeder is empty	Empty the burner and clean it as indicated in this manual Fill up the tank with pellets
	Dirty burner, very delayed start	Empty the burner and clean it as indicated in this manual
THE APPLIANCE IS OFF BUT THERE ARE UNBURNT PELLETS IN THE BRAZIER	The tank is empty	Empty the burner and clean it as indicated in this manual Fill up the tank with pellets
THE APPLIANCE IS OFF AND THE "ALARM F1" ALARM APPEARS ON THE DISPLAY	The combustion chamber door is open.	Close the door and start the appliance
	The ash pan has been removed or is not in the correct position.	Check the ash pan
	The door open pressure switch or the ash pan microswitch are keeping the contact open	Contact a service centre

# 13 SPARE PARTS

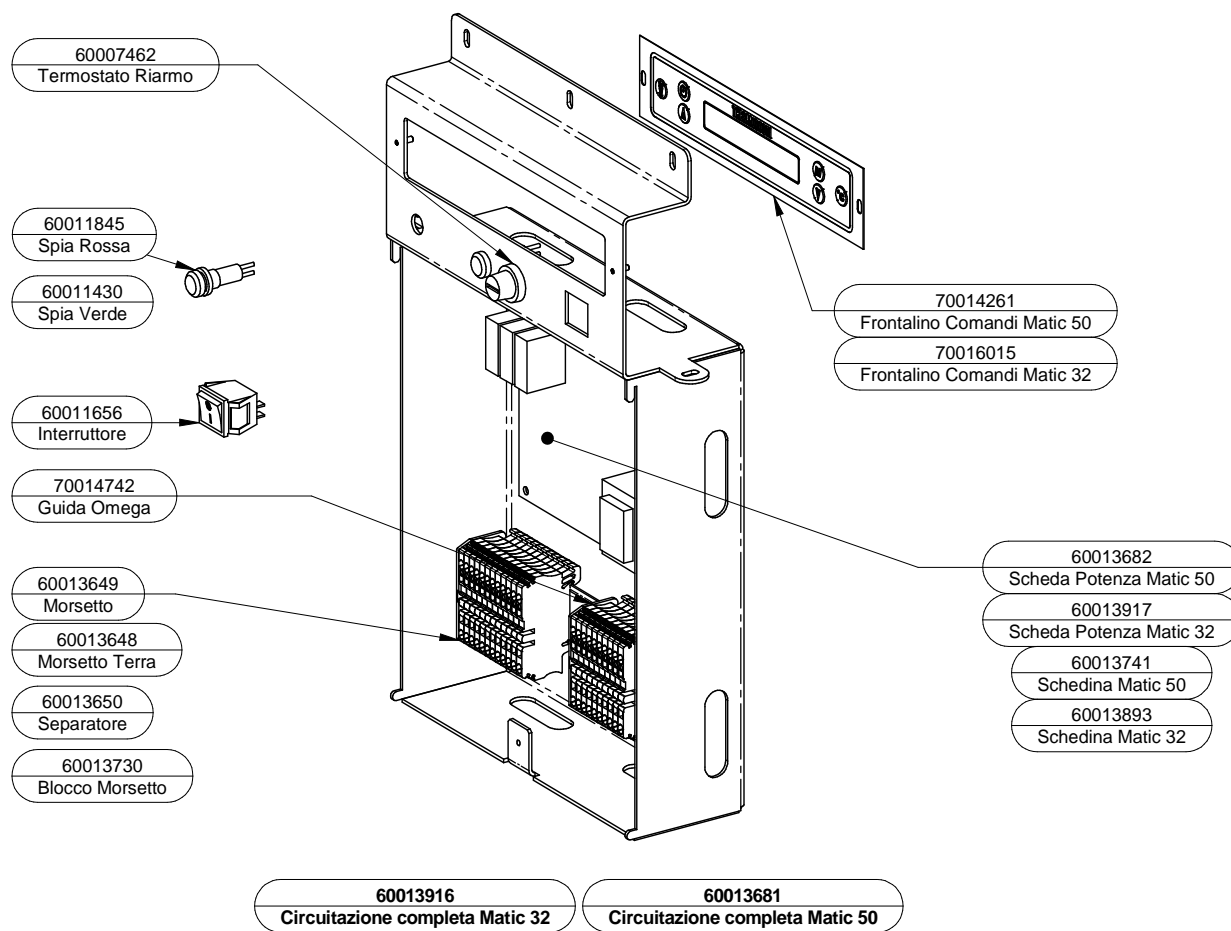
## 13.1 SPARE PARTS COMPACT MATIC 32 AND 50 (part 1/10)



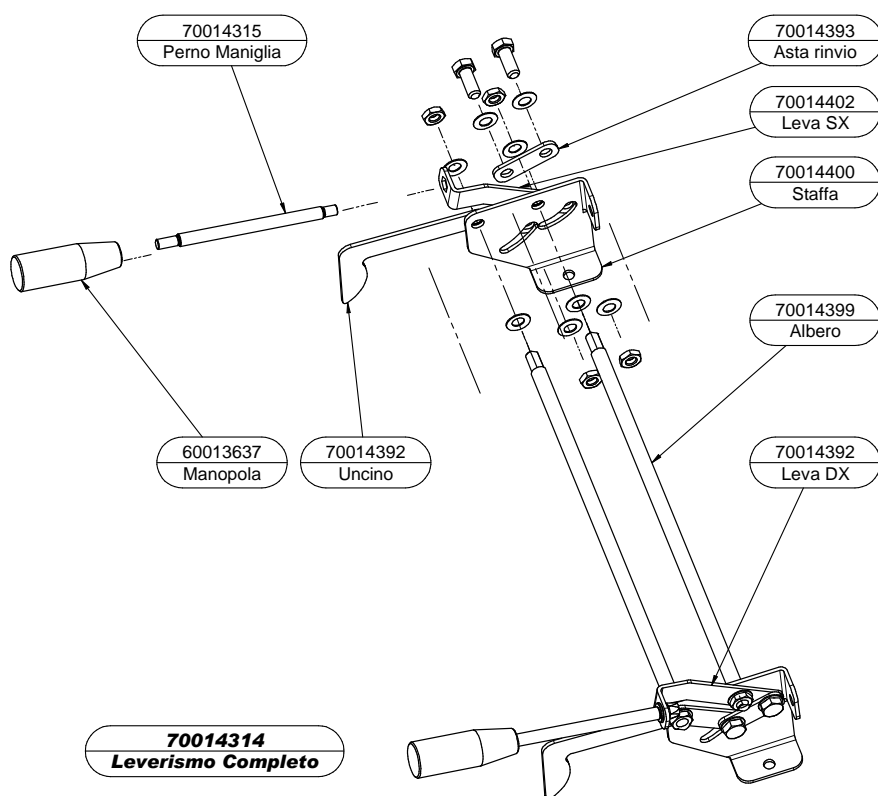
### 13.2 SPARE PARTS COMPACT MATIC 32 AND 50 (part 2/10)



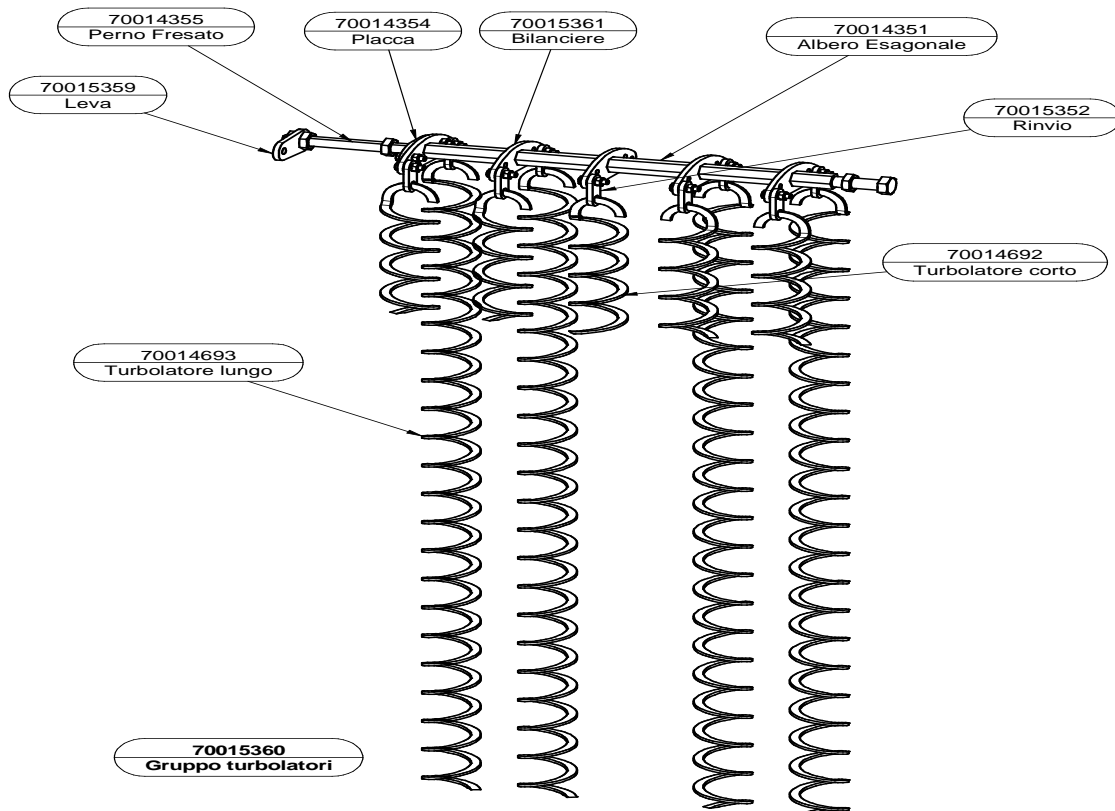
### 13.3 SPARE PARTS COMPACT MATIC 32 AND 50 (part 3/10)



### 13.4 SPARE PARTS COMPACT MATIC 32 AND 50 (part 4/10)

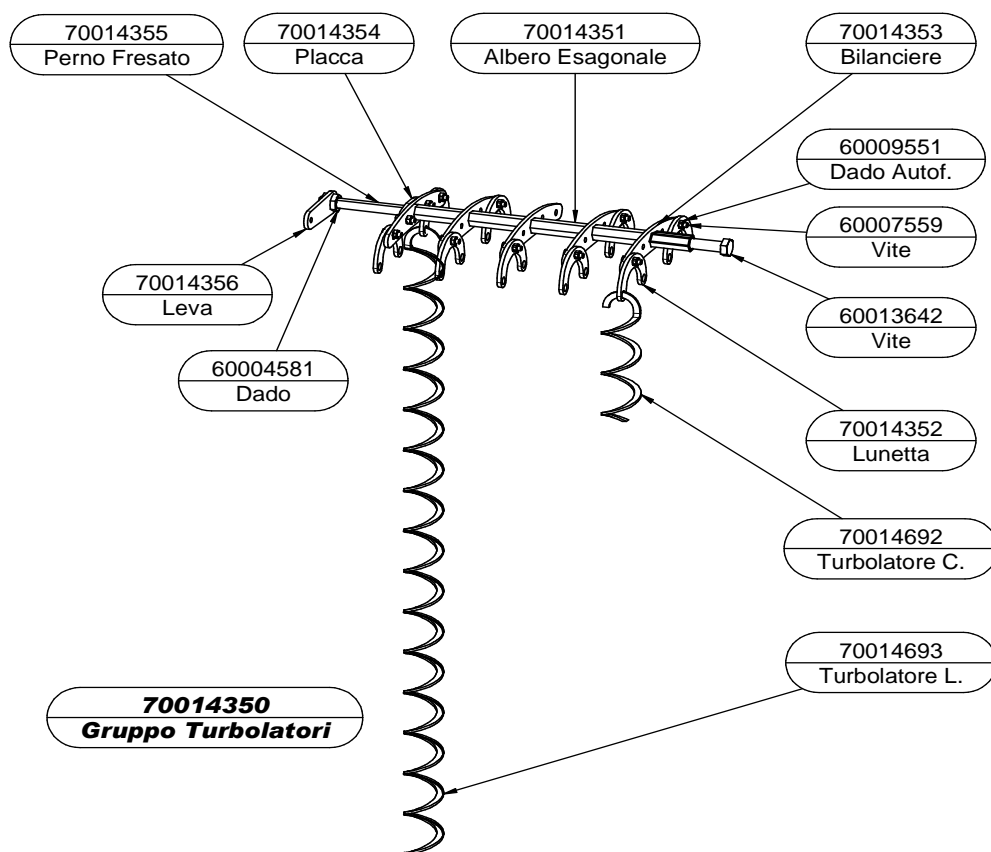


### 13.5 SPARE PARTS Compact MATIC 32 E 32 (part 5/10)

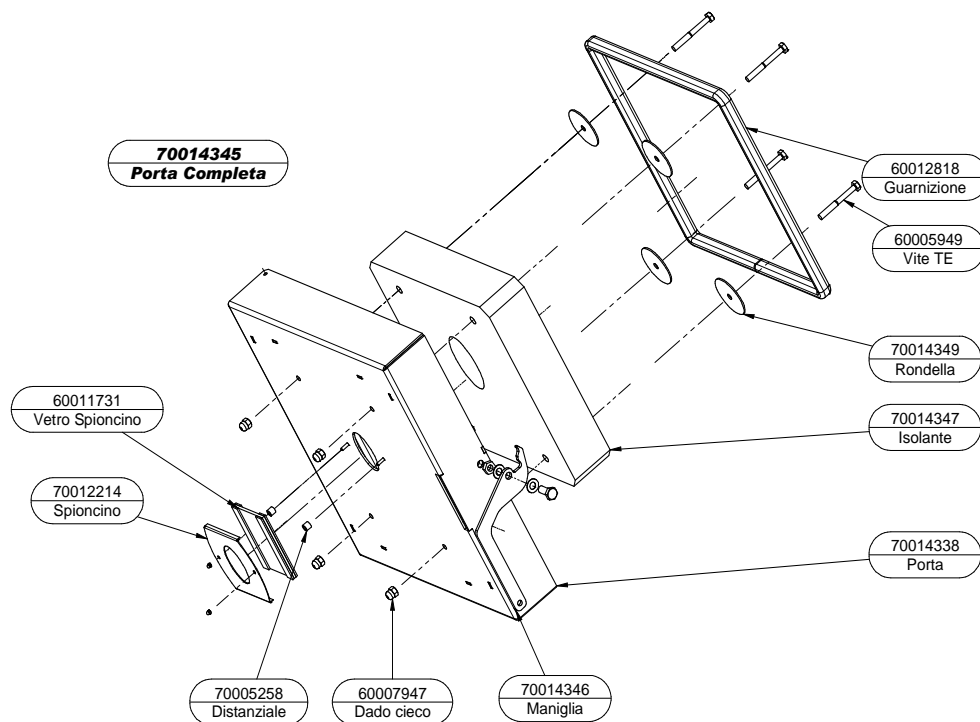




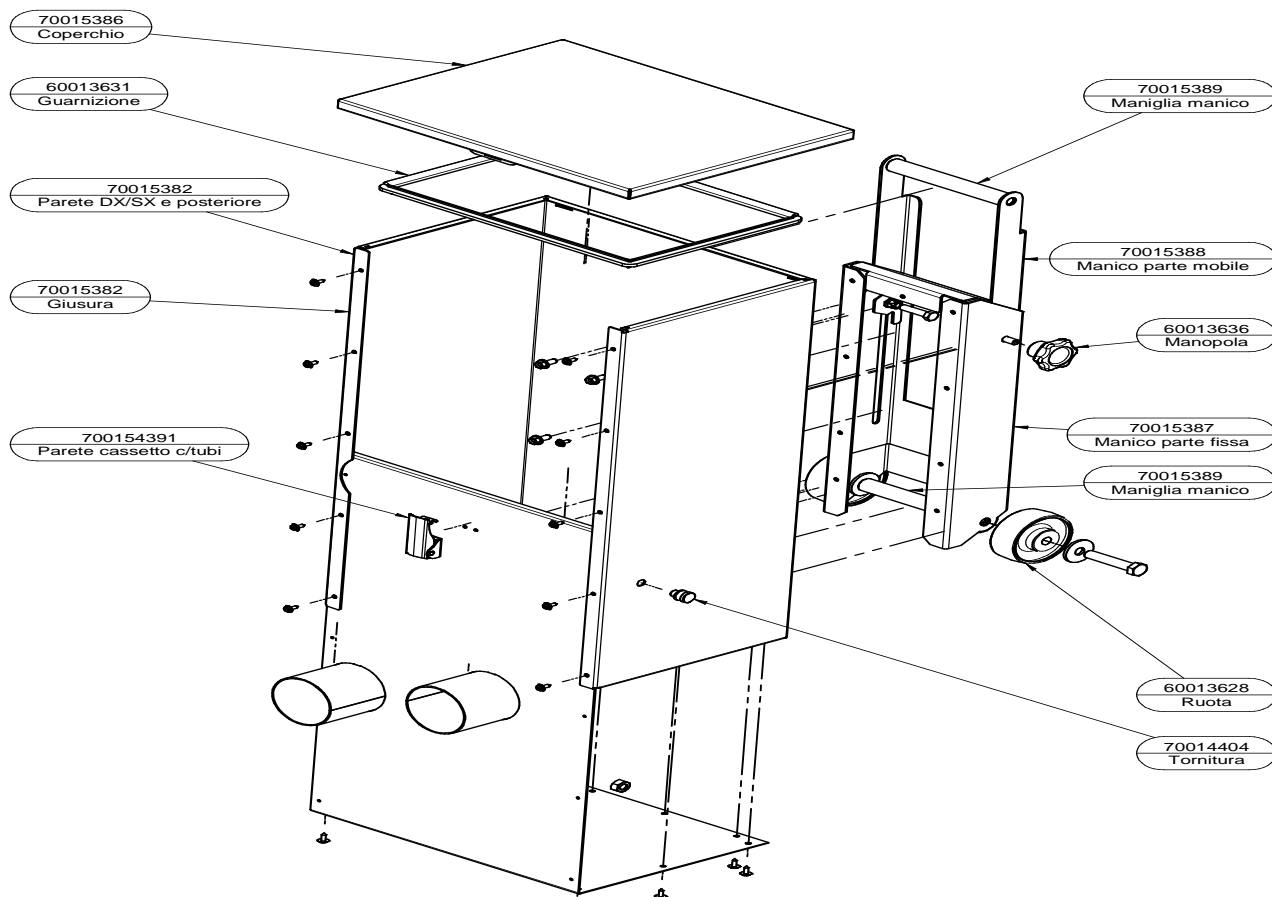
### 13.6 SPARE PARTS Compact MATIC 50 E 32 (part 6/10)



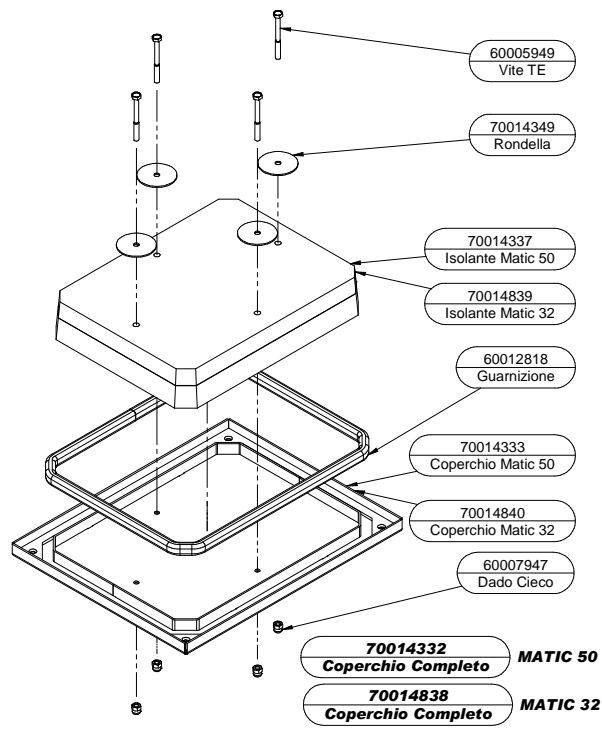
### 13.7 SPARE PARTS COMPACT MATIC 32 AND 50 (part 7/10)



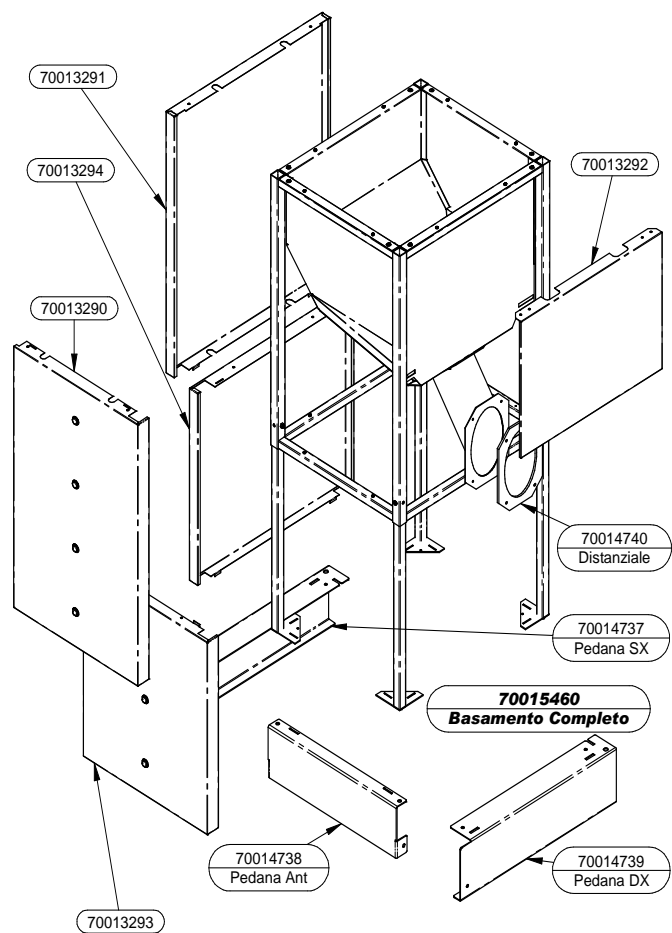
### 13.8 SPARE PARTS COMPACT MATIC 32 AND 50 (part 8/10)



### 13.9 SPARE PARTS SERBCOM FOR COMPACT MATIC 32 AND 50 (part 9/10)



### 13.10 SPARE PARTS SERBCOM FOR COMPACT MATIC 32 AND 50 (part 10/10)



<b>Legenda parti di ricambio</b>	<b>Key spare parts</b>
<b>Coperchio completo Matic 50</b>	<b>Complete cover Matic 50</b>
Solo coperchio Matic 50	Only Matic 50 cover
<b>Coperchio completo Matic 32</b>	<b>Complete cover Matic 32</b>
Solo coperchio Matic 32	Only Matic 32 cover
Cerniera	Hinge
Fermo coperchio	Cover retainer
<b>Fianco Post. DX/SX Compl. Matic 50</b>	<b>Compl. RH/LH Rear panel Matic 50</b>
<b>Fianco Post. SX Compl. Matic 32</b>	<b>Compl. LH Rear panel Matic 32</b>
Solo fianco SX Matic 50	Only LH side panel Matic 50
Solo fianco SX Matic 32	Only LH side panel Matic 32
<b>Fianco SX completo</b>	<b>Complete LH side panel</b>
Solo fianco	Only side panel
Magnete	Magnet
<b>Coperchio Ant. Compl. Matic 50</b>	<b>Compl. Front Cover Matic 50</b>
<b>Coperchio Ant. Compl. Matic 32</b>	<b>Compl. Front Cover Matic 32</b>
Solo coperchio Matic 50	Only Matic 50 cover
Solo coperchio Matic 32	Only Matic 32 cover
<b>Fianco Post. DX Compl. Matic 32</b>	<b>Compl. RH Rear panel Matic 32</b>
Solo fianco DX Matic 32	Only RH side panel Matic 32
Fianco DX Completo	Complete RH side panel
<b>Portone completo</b>	<b>Complete door</b>
Lamiera interna	Internal plate
Cerniera	Hinge
Maniglia	Handle
Tubo mandata Matic 32	Delivery tube Matic 32
Tubo mandata Matic 50	Delivery tube Matic 50
Termocoppia	Thermocouple
Pozzetto	Pocket
Motore Compl.	Comp. motor
Condensatore	Condenser
Girante	Impeller
Bocchettoni	Fittings
<b>Asp.fum. completo – Matic 32</b>	<b>Compl. smoke suction unit – Matic 32</b>
<b>Asp.fum. completo – Matic 50</b>	<b>Compl. smoke suction unit – Matic 50</b>
Termostato riarmo	Reset thermostat
Spia rossa	Red indicator light
Spia verde	Green indicator light
Interruttore	Switch
Guida omega	Omega guide
Morsetto	Terminal
Morsetto terra	Earth terminal
Separatore	Separator
Blocco morsetto	Terminal block
Frontalino Comandi Matic 50 – 32	Control front panel Matic 50 – 32
Scheda potenza Matic 50 – 32	Power board Matic 50 – 32
Schedina Matic 50 - 32	Board Matic 50 - 32
Perno maniglia	Handle pin
Manopola	Knob
Uncino	Hook
Asta rinvio	Bar
Leva SX	LH lever
Staffa	Bracket
Albero	Shaft
Leva DX	RH lever
<b>Leverismo completo</b>	<b>Complete lever assembly</b>
Perno fresato	Milled pin
Placca	Plate
Bilanciere	Equalizer
Albero esagonale	Hexagonal shaft
Rinvio	Transmission
Turbolatore corto	Short tube scraper
Turbolatore lungo	Long tube scraper
<b>Gruppi turbolatori</b>	<b>Spiral tube scraper unit</b>
Leva	Lever
Dado	Nut
Dado autof.	Self-tapping nut
Vite	Screw
Lunetta	Lunette
Turbolatore C.	Short tube scraper
Turbolatore L.	Long tube scraper
<b>Porta completa</b>	<b>Complete door</b>
Vetro spioncino	Inspection window pane
Spioncino	Inspection hole
Distanziale	Spacer
Dado cieco	Blind nut

Maniglia	Handle
Guarnizione	Gasket
Vite TE	Hex head screw
Rondella	Washer
Isolante	Insulation
Porta	Door
Coperchio	Cover
Guarnizione	Gasket
Parete DX/SX e posteriore	RH/LH and rear wall
Chiusura	Lock
Parete cassetto c/tubi	Pan wall with tubes
Maniglia manico	Handle grip
Manico parte mobile	Handle mobile part
Manopola	Knob
Manico parte fissa	Handle fixed part
Maniglia manico	Handle grip
Ruota	Wheel
Tornitura	Turning element
Vite TE	Hex head screw
Rondella	Washer
Isolante Matic 50 – 32	Insulation Matic 50 – 32
Guarnizione	Gasket
Coperchio Matic 50 – 32	Cover Matic 50 – 32
Dado cieco	Blind nut
<b>Coperchio completo</b>	<b>Complete cover</b>
Distanziale	Spacer
Pedana SX	LH kickboard
<b>Basamento completo</b>	<b>Complete base</b>
Pedana DX	RH kickboard
Pedana ant.	Front kickboard

