



HR EVO 300 SMART
HR EVO 350 SMART

Dichiarazione di conformità UE
EU Declaration of Conformity
Declaration de Conformite UE
(DoC)



Il costruttore
The manufacturer
Le fabricant

Aico S.p.A.
Via A. Kupfer, 31
25036 Palazzolo s/O (Bs) – Italy
ph: +39 030 74 02 939, e-mail: info@ravelligroup.it

DICHIARA che la dichiarazione viene rilasciata sotto la propria responsabilità e si riferisce al seguente prodotto:

DECLARES that the DoC is issued under our sole responsibility and belongs to the following product:

DÉCLARE que la déclaration est délivré sous notre seule responsanilité et elle se refère au suivant produit:

Tipo di prodotto **Caldaia a pellet**
Product type **Pellet boiler**
Type de produit **Chaudière à granulés de bois**

Marchio
Trademark
Marque **Ravelli**

Modello
Model
Modèle **HR EVO 300 Smart**

L'oggetto della dichiarazione di cui sopra è conforme alla pertinente normativa di armonizzazione dell'Unione:

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

L'objet de la déclaration décrit ci-dessus est conforme à l'harmonisation de l'Union concernant la législation la directive:

- **2006/42/CE, MD**
- **2014/30/EU, EMCD**
- **2014/35/EU, LVD**
- **2011/65/EU, 2015/863/EU RoHS**
- **2009/125/EC Ecodesign**

Sono state applicate le seguenti norme armonizzate e/o specifiche tecniche:

The following harmonised standards and/or technical specifications have been applied:

Les normes et les spécifications techniques harmonisées suivantes ont été appliquées:

EN 303-5	EN 61000-6-2 EN 61000-6-3	EN 60335-1 EN 60335-2-102 EN 62233	EN 50581	(EU) 2015/1189
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Organismo notificato (EN 303-5):

Notified body (EN 303-5):

IMQ (NB 0051)

Organisme notifié (EN 303-5):

Palazzolo Sull'Oglio (BS), ITALY
08/01/2020


(Claudio Mezzalana, Operations Manager)

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Tipo di prodotto **Caldaia a pellet**
Product type **Pellet boiler**
Type de produit **Chaudière à granulés de bois**

Marchio
Trademark
Marque **Ravelli**

Modello
Model
Modèle **HR EVO 350 Smart**

L'oggetto della dichiarazione di cui sopra è conforme alla pertinente normativa di armonizzazione dell'Unione:

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

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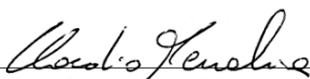
Organismo notificato (EN 303-5):


Notified body (EN 303-5):

Organisme notifié (EN 303-5):

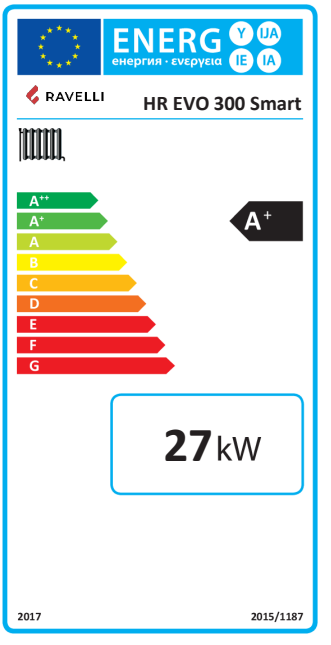
IMQ (NB 0051)


Palazzolo Sull'Oglio (BS), ITALY
08/01/2020


(Claudio Mezzalana, Operations Manager)

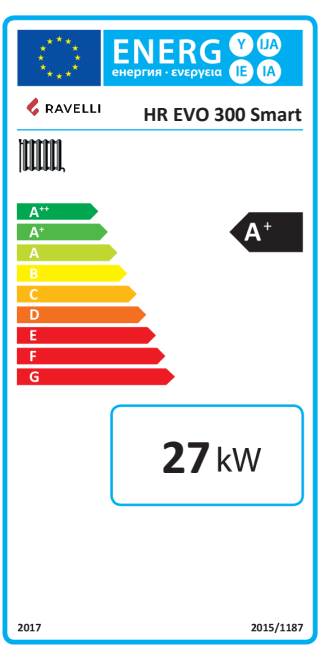
	SCHEMA PRODOTTO	PRODUCT DATASHEET
	FICHE DE PRODUIT	PRODUCTKAART
	PRODUKTDATENBLATT	FICHA DEL PRODUCTO


EU 2015/1187

	Marca / Trademark / Marque / Merk / Marke / Marca	Ravelli
	Modello / Model / Modèle / Model / Modell / Modelo	HR EVO 300 Smart
	Classe di efficienza energetica / Energy Efficiency class / Classe d'Efficacité Énergétique / Energie-efficiëntieklasse / Energieeffizienzklasse / Clase de eficiencia energética	A+
	Potenza termica nominale / Rated heat output / Puissance thermique nominale / Nominaal warmtevermogen / Wärmenennleistung / Potencia térmica nominal	27 kW
	Indice di efficienza energetica / Energy Efficiency Index / Índice de eficiencia energética / Energie-efficiëntie-index / Energieeffizienzindex / Índice de eficiencia energética	117
	Efficienza energetica stagionale di riscaldamento di ambiente / Seasonal space heating energy efficiency / Efficacité énergétique saisonnière pour le chauffage des locaux / Seizoensgebonden energie-efficiëntie verwarming omgeving / Saisonenergieeffizienz für die Raumheizung / Eficiencia energética estacional de calefacción del ambiente	79 %
	Rispettare le avvertenze e le indicazioni di installazione e manutenzione periodica riportate nel manuale di istruzioni. Comply with the warnings and instructions concerning installation and routine maintenance provided in the instruction manual. Respecter les avertissements et les indications sur l'installation et l'entretien périodique fournis dans le manuel d'instructions. Neem de waarschuwingen en instructies voor installatie en periodiek onderhoud in acht zoals aangegeven in de hoofdstukken van de gebruiksaanwijzing. Beachten Sie die Warnungen und Hinweise betreffend die Installation und regelmäßige Wartung in der Bedienungsanleitung. Respete las advertencias y las indicaciones de instalación y mantenimiento periódico, detalladas en los capítulos del manual de instrucciones.	

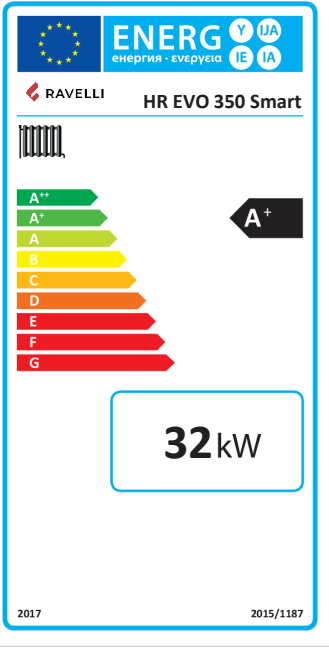
	PRODUCT DATASHEET	FICHA DO PRODUTO
	ΔΕΛΤΙΟ ΠΡΟΪΟΝΤΟΣ	PRODUKTBLAD
	KARTA PRODUKTU	PODATKOVNI LIST IZDELKA


EU 2015/1187

	Trademark / Marca / Μάρκα / Mærke / Marka / Blagovna znamka	Ravelli
	Model / Modelo / Μοντέλο / Model / Model / Model	HR EVO 300 Smart
	Energy Efficiency class / Classe de Eficiência Energética / Κατηγορία ενεργειακής απόδοσης / Energiklasse / Klasa efektywności energetycznej / Razred energetske učinkovitosti	A+
	Rated heat output / Potência térmica nominal / Ονομαστική θερμική ισχύς / Nominel termisk effekt / Nominalna moc cieplna / Nazivna vhodna toplotna moč	27 kW
	Energy Efficiency Index / Índice de eficiência energética / Δείκτης ενεργειακής απόδοσης / Indeks energieeffektivitet / Wskaźnik efektywności energetycznej / Kazalo energetske učinkovitosti	117
	Seasonal space heating energy efficiency / Eficiência energética sazonal de aquecimento de ambiente / Εποχιακή ενεργειακή απόδοση θέρμανσης περιβάλλοντος / Årstidsbestemt energieffektivitet for opvarmning / Sezonowa efektywność energetyczna ogrzewania otoczenia / Sezonska energetska učinkovitost ogrevanja prostora	79 %
	Comply with the warnings and instructions concerning installation and routine maintenance provided in the instruction manual. Respeitar as advertências e as indicações de instalação e manutenção periódica referidas nos capítulos do manual de instruções. Τηρείτε τις προειδοποιήσεις και τις οδηγίες εγκατάστασης και περιοδικής συντήρησης που αναφέρονται στα κεφάλαια του εγχειριδίου των οδηγιών. Overhold advarslerne og angivelserne for installation og vedligeholdelse, som angivet i kapitel i brugsvejledningen. Należy przestrzegać ostrzeżeń i wskazówek dotyczących instalacji i okresowej konserwacji podanych w rozdziałach w instrukcji obsługi. Upoštevejte opozorila in navodila za namestitev in redno vzdrževanje, navedena v poglavjih priročnika z navodili.	

	SCHEDA PRODOTTO	PRODUCT DATASHEET
	FICHE DE PRODUIT	PRODUCTKAART
	PRODUKTDATENBLATT	FICHA DEL PRODUCTO

EU 2015/1187

	Marca / Trademark / Marque / Merk / Marke / Marca	Ravelli
	Modello / Model / Modèle / Model / Modell / Modelo	HR EVO 350 Smart
	Classe di efficienza energetica / Energy Efficiency class / Classe d'Efficacité Énergétique / Energie-efficiëntieklasse / Energieeffizienzklasse / Clase de eficiencia energética	A+
	Potenza termica nominale / Rated heat output / Puissance thermique nominale / Nominaal warmtevermogen / Wärmenennleistung / Potencia térmica nominal	32 kW
	Indice di efficienza energetica / Energy Efficiency Index / Índice de eficiencia energética / Energie-efficiëntie-index / Energieeffizienzindex / Índice de eficiencia energética	117
	Efficienza energetica stagionale di riscaldamento di ambiente / Seasonal space heating energy efficiency / Efficacité énergétique saisonnière pour le chauffage des locaux / Seizoensgebonden energie-efficiëntie verwarming omgeving / Saisonenergieeffizienz für die Raumheizung / Eficiencia energética estacional de calefacción del ambiente	79 %
	Rispettare le avvertenze e le indicazioni di installazione e manutenzione periodica riportate nel manuale di istruzioni. Comply with the warnings and instructions concerning installation and routine maintenance provided in the instruction manual. Respecter les avertissements et les indications sur l'installation et l'entretien périodique fournis dans le manuel d'instructions. Neem de waarschuwingen en instructies voor installatie en periodiek onderhoud in acht zoals aangegeven in de hoofdstukken van de gebruiksaanwijzing. Beachten Sie die Warnungen und Hinweise betreffend die Installation und regelmäßige Wartung in der Bedienungsanleitung. Respete las advertencias y las indicaciones de instalación y mantenimiento periódico, detalladas en los capítulos del manual de instrucciones.	

	PRODUCT DATASHEET	FICHA DO PRODUCTO
	ΔΕΛΤΙΟ ΠΡΟΪΟΝΤΟΣ	PRODUKTBLAD
	KARTA PRODUKTU	PODATKOVNI LIST IZDELKA

EU 2015/1187

	Trademark / Marca / Μάρκα / Mærke / Marka / Blagovna znamka	Ravelli
	Model / Modelo / Μοντέλο / Model / Model / Model	HR EVO 350 Smart
	Energy Efficiency class / Classe de Eficiência Energética / Κατηγορία ενεργειακής απόδοσης / Energiklasse / Klasa efektywności energetycznej / Razred energetske učinkovitosti	A+
	Rated heat output / Potência térmica nominal / Ονομαστική θερμική ισχύς / Nominel termisk effekt / Nominalna moc cieplna / Nazivna vhodna toplotna moč	32 kW
	Energy Efficiency Index / Índice de eficiência energética / Δείκτης ενεργειακής απόδοσης / Indeks energieeffektivitet / Wskaźnik efektywności energetycznej / Kazalo energetske učinkovitosti	117
	Seasonal space heating energy efficiency / Eficiencia energética sazonal de aquecimento de ambiente / Εποχιακή ενεργειακή απόδοση θέρμανσης περιβάλλοντος / Årstidsbestemt energieeffektivitet for opvarmning / Sezonowa efektywność energetyczna ogrzewania otoczenia / Sezonska energetska učinkovitost ogrevanja prostora	79 %
	Comply with the warnings and instructions concerning installation and routine maintenance provided in the instruction manual. Respetar as advertências e as indicações de instalação e manutenção periódica referidas nos capítulos do manual de instruções. Τηρείτε τις προειδοποιήσεις και τις οδηγίες εγκατάστασης και περιοδικής συντήρησης που αναφέρονται στα κεφάλαια του εγχειριδίου των οδηγιών. Overhold advarslerne og angivelserne for installation og vedligeholdelse, som angivet i kapitel i brugsvejledningen. Należy przestrzegać ostrzeżeń i wskazówek dotyczących instalacji i okresowej konserwacji podanych w rozdziałach w instrukcji obsługi. Upošteevajte opozorila in navodila za namestitve in redno vzdrževanje, navedena v poglavjih priročnika z navodili.	

Preface

Dear Customer, We would like to thank you for choosing one of our stoves.

We invite you to read this manual carefully, before starting installation and use, so that you are able to benefit from all of its characteristics better and in full safety. It contains all necessary information for correct installation, start-up, operation, cleaning, maintenance, etc.

Keep this manual in a suitable location, do not discard it without reading it.

Incorrect installation, maintenance and improper use of the product relieve the Manufacturer of all liability deriving from use of the stove.

For further information and requirements contact your Ravelli-authorized Technical Assistance Centre.

All rights reserved. No part of this instructions manual can be reproduced or transmitted through any electronic or mechanical means, including photocopies, recordings or any other storage system, for other purposes that are not exclusively use by the buyer's staff, without the express written consent of the Manufacturer.

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IDENTIFICATION

Stove identification

Type of product	PELLET BOILER
Trademark	Ravelli
Model	HR EVO 300 Smart - HR EVO 350 Smart

Manufacturer identification

Manufacturer	Aico S.p.A. Via Consorzio Agrario, 3/D - 25032 Chiari (BS) - Italy T. + 39 030 7402939 info@ravelligroup.it www.ravelligroup.it
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Reference standards

The boilers HR EVO Smart that this manual refers to are compliant with the regulation:
2006/42/CE MACHINERY DIRECTIVE (MD)
2014/30/UE ELECTRO MAGNETIC COMPATIBILITY DIRECTIVE (EMCD)
2014/35/UE LOW VOLTAGE DIRECTIVE (LVD)
2011/65/UE RESTRICTION OF HAZARDOUS SUBSTANCES DIRECTIVE (ROHS2)
2009/125/CE ECODESIGN

And to the following harmonized standards:

EN 303-5, EN 61000-6- 2, EN 61000-6- 3, EN 60335-1, EN 60335-2- 102, EN 62233, EN 50581, EU 2015/1187, EU 2015/1189
All local regulations, including those referring to national and European standards, must be respected when installing the appliance.

Label

HR EVO 300 SMART

Combustibile / Fuel / Carburant	Pellets di legno Ø 6 mm Wood pellets Ø 6 mm
Classe del combustibile / Fuel class / Classe de combustible	C1
Potenza termica introdotta Heat input Introduite puissance thermique	nominale / nominal / nominale 29,7 kW ridotto / reduced / réduite 8,9 kW
Potenza termica resa Heat output Utile puissance thermique	nominale / nominal / nominale 27,4 kW ridotto / reduced / réduite 8,2 kW
Classe caldaia / Pellet boiler class / Classe chaudiere	5
Massima pressione di lavoro ammissibile / Maximum working pressure admitted / Pression maximum de travaille admissible	2 bar
Massima temperatura di lavoro ammissibile / Maximum working temperature admitted / Temperature maximum de travaille admissible	90 ° C
Contenuto d'acqua / Water content / Contenne d'eau	51 l.
Potenza elettrica nominale Electrical power supply / Puissance électrique nominal	300 W
Tensione nominale / Nominal voltage / Tension nominal	230 V
Corrente nominale / Nominal power / Puissance nominal	1,3 A
Frequenza nominale / Nominal frequency / Fréquence nominal	50 Hz
<ul style="list-style-type: none"> • Usare solo i combustibili raccomandati / Use only recommended fuel / Utiliser seulement les combustibles recommandés • Leggere le istruzioni d'uso / Read and follow the operating manual / Lire et suivre le mode d'emploi • Installare il prodotto secondo le norme vigenti / Install the boiler in respect of the rules in force / Installer le produit selon la réglementation en vigueur 	
Conforme alla normativa / Complying with the standard / Conforme à la normative	EN 303-5:2012

anno di
produzione
2020



HR EVO 350 SMART

Combustibile / Fuel / Carburant	Pellets di legno Ø 6 mm Wood pellets Ø 6 mm
Classe del combustibile / Fuel class / Classe de combustible	C1
Potenza termica introdotta Heat input Introduite puissance thermique	nominale / nominal / nominale 34,6 kW ridotto / reduced / réduite 8,9 kW
Potenza termica resa Heat output Utile puissance thermique	nominale / nominal / nominale 31,7 kW ridotto / reduced / réduite 8,2 kW
Classe caldaia / Pellet boiler class / Classe chaudiere	5
Massima pressione di lavoro ammissibile / Maximum working pressure admitted / Pression maximum de travaille admissible	2 bar
Massima temperatura di lavoro ammissibile / Maximum working temperature admitted / Temperature maximum de travaille admissible	90 ° C
Contenuto d'acqua / Water content / Contenne d'eau	51 l.
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Conforme alla normativa / Complying with the standard / Conforme à la normative	EN 303-5:2012

anno di
produzione
2020



WARRANTY

Certificate of warranty

Ravelli thanks you for the trust granted with the purchase of one of its products and invites the purchaser to:

- read the installation, use and maintenance instructions for the product;
- read the warranty conditions contained below.

Warranty conditions

The warranty for the Customer is acknowledged by the Dealer under the terms of law.

The Dealer acknowledges the warranty only if the product has not been tampered with and only if it has been installed in accordance with the Manufacturer's instructions.

The limited warranty covers manufacturing material defects, as long as the product has not broken due to an incorrect use, negligence, incorrect connection, tampering, installation errors.

The warranty becomes null and void even if only one requirement in this manual is not complied with.

The following are not covered by warranty:

- the combustion chamber refractory stones;
- the door glass;
- the gaskets;
- the paint job;
- the stainless steel or cast iron combustion grille;
- the resistance;
- the Majolica cladding;
- the aesthetic parts;
- any damages caused by unsuitable installation and/or use of the product and/or shortcomings on the part of the customer.

The use of poor quality pellet or any other unauthorised fuel may damage the product's components, cause its warranty to be voided and as a result eliminate the connected manufacturer liability.

It is therefore recommended to use good quality pellet that fulfils the requirements listed in the dedicated chapter.

All damages caused by transportation are not recognised, for this reason it is recommended to carefully check goods upon receipt, immediately warning the reseller of any damage.

Registration of warranty



To activate the warranty, it is necessary to register the product on the Guarantee Portal on the website www.ravelligroup.it, by entering your data and the purchase receipt.

Info and problems

Dealers authorised by Ravelli use a trained Technical Service Centre network to meet the Customer's requirements. For any information or request for assistance, please contact your Dealer or the Technical Service Centre.

GENERAL INFORMATION

Supply and safe-keeping

The manual is supplied in printed format.

Keep this manual safe, with the appliance, so that the user can consult it easily.

The manual is an integral part, for safety reasons, therefore:

- **it must be kept intact** (in full). If it gets lost or ruined it is necessary to immediately ask for a new copy:
- **it must be kept with the appliance until demolition** (including relocation, sale, rental, lease, etc....).

The Manufacturer will not be held liable for improper use of the appliance and/or damage caused by operations that are not set forth in the technical documentation.



Language

The original manual was written in Italian.

Any translations into additional languages must be carried out based on the original instructions.


The Manufacturer is liable for the information contained in the original instructions; the translations into different languages cannot be fully verified therefore if any inconsistency arises it will be necessary to follow the text in the original language or contact our Technical Documentation Office.


Symbols used in the manual


symbol	definition
	This symbol is used to identify particularly important information in the manual. This information also concerns the safety of users involved in using the appliance.
	This symbol is used to identify important warnings for the safety of the user and/or the appliance.


SAFETY MEASURES


General safety warnings









 Read this instructions manual carefully before appliance installation and use. Failure to observe the instructions set forth herein can void the warranty and/or cause damage to property and/or people.

 Appliance installation, system verification, operation verification and initial calibration must be carried out exclusively by qualified and authorised staff.

 The appliance needs to be connected to a single chimney that guarantees the draught declared by the Manufacturer and observes the installation regulations that apply to the installation site.

 The room where the appliance is installed must have an air intake.

 The appliance must not be used as an incinerator or differently from its purpose


-  Do not use any fuel other than fire pellet. It is strictly forbidden to use liquid fuels.
-  It is prohibited to use the appliance with the door or ash drawer open or the glass broken.
-  Do not touch the hot surfaces of the appliance without suitable protective equipment, to avoid getting burned. When it is running, the outer surfaces reach hot temperatures to the touch.
-  It is forbidden to make unauthorised changes to the appliance.
-  Before using the appliance it is necessary to know the position and function of the controls.
-  If the chimney catches fire you must call the fire brigade.
-  Only use original spare parts. Any tampering and/or replacements that have not been authorised by Ravelli can pose a danger to the user's safety.
-  In the event of particularly adverse weather conditions, the safety systems could intervene and switch off the appliance. In any case, do not disable the safety systems.

Residual risks

The appliance was designed so as to guarantee the user's essential safety requirements.

Safety was integrated into the appliance's design and construction as much as possible.

For every residual risk there is a description of the risk and the zone or part that it applies to (unless the risk applies to the entire appliance overall). Procedure-related information is also provided on how to avoid the risk and on the correct use of the personal protective equipment required by and made compulsory by the Manufacturer.

Residual risk	Description procedure-related information
Risk of burns 	When the appliance is running, it may reach high temperatures to the touch, especially on its external surfaces. Take care to avoid burns and use the specific tools if necessary. Use the supplied glove to open pellet cover for loading operations.

DESCRIPTION OF THE APPLIANCE


Intended use

The appliance in question is intended for:

Operation	Allowed fuel	Forbidden	Setting
Domestic space heating by burning:	Pellet	Any fuel other than the permitted ones.	Residential or Commercial

The appliance is designed and built to work safely if:

- it is installed by qualified staff according to the specific standards;
- it is used within the limits declared in the contract and herein;
- the operating manual procedures are followed;
- routine maintenance is carried out according to the times and methods set forth;
- extraordinary maintenance is promptly carried out when needed;
- safety devices are not removed and/or bypassed.

 This appliance must be intended for the use it was specifically designed for.

Reasonably foreseeable incorrect use

Reasonably foreseeable incorrect use is listed below:

- using the appliance as an incinerator;
- using the appliance with fuel other than pellet;
- using the appliance with liquid fuels;
- using the appliance with the door open and the ash drawer out.

Any use of the appliance other than intended must be preventively authorised in writing by the Manufacturer. Without said written authorisation, the use is considered “improper”. Any contractual and non-contractual liability of the manufacturer is excluded for damages to persons, animals or property due to installation and maintenance adjustment errors and improper use.

Obligations and forbidden actions

Obligations

The user must:

- read this instructions manual before performing any operation on the appliance;
- the appliance must not be used by children under the age of 8 or by people with reduced physical, sensorial or mental capacities or without experience or without the necessary knowledge, and always with supervision;
- do not use the appliance improperly, i.e. for uses other than those described in the “INTENDED USE” paragraph;
- it is strictly forbidden to use liquid fuels;
- keep objects that are not heat and/or flame-resistant at a safe distance;
- only and exclusively load the appliance with pellet with the characteristics described herein;
- connect the appliance to a regulation chimney;
- provide a suitable system for the supply of combustion air (air intake or intake duct for watertight appliances);
- always perform maintenance with the appliance off and cold;
- perform cleaning activities at the frequency stated herein;
- use original parts recommended by the Manufacturer.

Forbidden actions

The user must never:

- remove or change the safety devices without authorisation;
 - perform operations or manoeuvres of his/her own initiative that are not part of his/her job description, meaning that he/she might jeopardise his/her own safety and that of others;
 - use fuels other than pellet and those allowed for lighting;
 - use the appliance as an incinerator;
 - use flammable or explosive substances near the appliance during operation;
 - use the appliance with the door open and/or with the glass ruined or broken;
 - close the combustion air and smoke outlet openings, whatsoever;
 - use the appliance to dry laundry;
 - replace or change some of the appliance parts.
-
-

Characteristics of the fuel

Wood pellet is a fuel made of pressed wood sawdust, often recovered from processing scraps of carpentries. The material used cannot contain any extraneous substance such as, for example, glue, lacquer or synthetic substances.

The sawdust, once it has been dried and cleaned from impurities, is pressed using a die with holes: as a result of high pressure, the sawdust heats up by activating the natural wood binders; this way the pellet maintains its shape even without adding artificial substances.

Wood pellet density varies based on the type of wood and can exceed that of natural wood by 1.5 - 2 times.

The cylinders have a diameter of 6 mm and a variable length between 10 and 40 mm.

Their density is equal to approximately 650 kg/m³. Due to their low water content (< 10%) they have a high energy content.

The UNI EN ISO 17225-2:2014 standard (that replaces the EN PLUS standard) defines pellet quality by specifying three classes: A1, A2 and B. Maintain fuels and other flammables at a suitable distance.

Ravelli recommends using wood pellet classified A1 and A2 according to the EN ISO 17225-2:2014 standard, or certified DIN PLUS (more restrictive than the A1 class) or ONORM M 7135. Pellet may be light or dark coloured, it is normally bagged into bags that show the name of the producer, the main characteristics and classification according to standards.



Pellets must be transported and stored in a dry area. Upon contact with humidity they swell and become unusable



It is therefore necessary to protect them from humidity, both during transport and during storage.

Non-permitted fuels

We recommend not using the following materials as fuel:

- wood
- treated wood (painted, lacquered, glued wood etc.);
- sawdust or chips
- liquid fuel
- coal or other fossil fuels
- plastic and derivatives
- treated paper and cardboard
- waste
- fuels that release toxic or polluting substances

Using these fuels, on top of being forbidden due to the emission of polluting and harmful substances, causes the appliance to deteriorate more rapidly and debris to accumulate in the appliance and in the smoke evacuation system, thereby reducing performance and safety.



The gases produced by these fuels are dangerous for the environment and for your health!



Using fuel that is not compliant with the above will void the warranty.

TECHNICAL CHARACTERISTICS

	Unit of measure	HR EVO 300 Smart	HR EVO 350 Smart
Energy efficiency class	--	A+	A+
Boiler class (EN 303-5:2012)	--	5	5
Heating input reduced - nominal	kW	8,9 - 29,7	8,9 - 34,6
Heating output red - nom	kW	8,2 - 27,4	8,2 - 31,7
Efficiency red - nom	%	91,7 - 92,6	91,7 - 91,6
Useful efficiency red - nom	%	84,1 - 84,5	84,1 - 83,7
Seasonal space heating energy efficiency	%	79	79
Fuel consumption red - nom	kg/h	1,89 - 6,29	1,89 - 7,34
Autonomy red - nom	h	37 - 11	37 - 10
Heatable volume *	m ³	495 - 780	575 - 905
CO 13% O ₂ red - nom	mg/m ³	172 - 16	172 - 27
CO 10% O ₂ (seasonal)	mg/m ³	204	207
NOx 13% O ₂ red - nom	mg/m ³	70 - 97	70 - 100
NOx 10% O ₂ (seasonal)	mg/m ³	102	102
PM 13% O ₂ red - nom	mg/m ³	6 - 6,9	6 - 6,2
PM 10% O ₂ (seasonal)	mg/m ³	8	8
OGC 13% O ₂ red - nom	mg/m ³	6,9 - 0,4	6,9 - 0,8
OGC 10% O ₂ (seasonal)	mg/m ³	8	8
Max working pressure	bar (kPa)	2 - 200	2 - 200
Maximum adjustable water temperature	°C	80	80
Max water temperature	°C	90	90
Water content	l	51	51
Expansion vessel	l	6	6
Flue gas temperature red - nom	°C	68 - 121	68 - 142
Flue mass flow rate red - nom	g/s	10 - 17,3	10 - 18,8
Minimum draft	Pa (mbar)	9 - 0,09	8 - 0,08
Electrical supply	V - Hz	50 - 230	50 - 230
Electrical consumption max	W	300	300
Electrical consumption red - nom	W	114 - 139	114 - 146
Electrical consumption stand-by	W	5,25	5,25
Maximum electric consumption of pump	W	43	43
Hopper capacity	kg	70	70
Condensing Boiler		NO	NO
Cogeneration boiler		NO	NO
Combination boiler		NO	NO
It is recommended that the boiler be operated with a hot water storage tank of a volume of at least	l	548	634

The data shown here is provided as a guideline and is not binding, and may change based on what type and quality of wood is used. Ravelli reserves the right to make any changes in order to improve product performance.

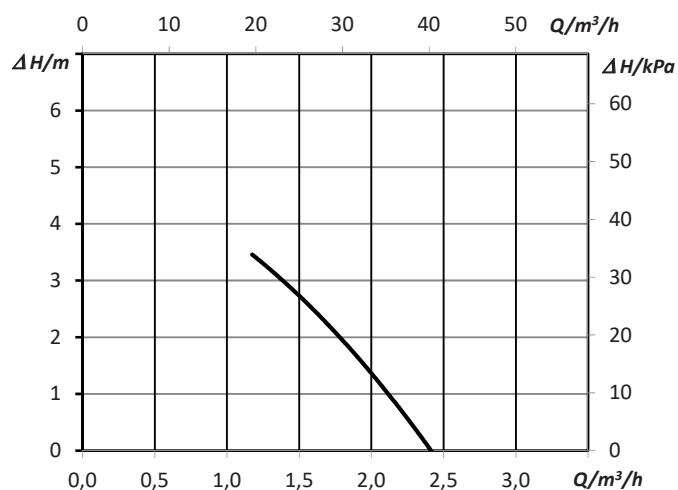
* Heatable volume based on the requested power equal to 35 W/m³ and 55 W/m³

During operation the unit generates very little noise, with levels between 38 and 42 dB.

Loss of load

	ΔT	Loss of load		
		l/min	mbar	kPa
HR EVO 300 SMART	20 K	39,1	429	42,9
	10 K	19,6	197	19,7
HR EVO 350 SMART	20 K	45,3	483	48,3
	10 K	22,6	208	20,8

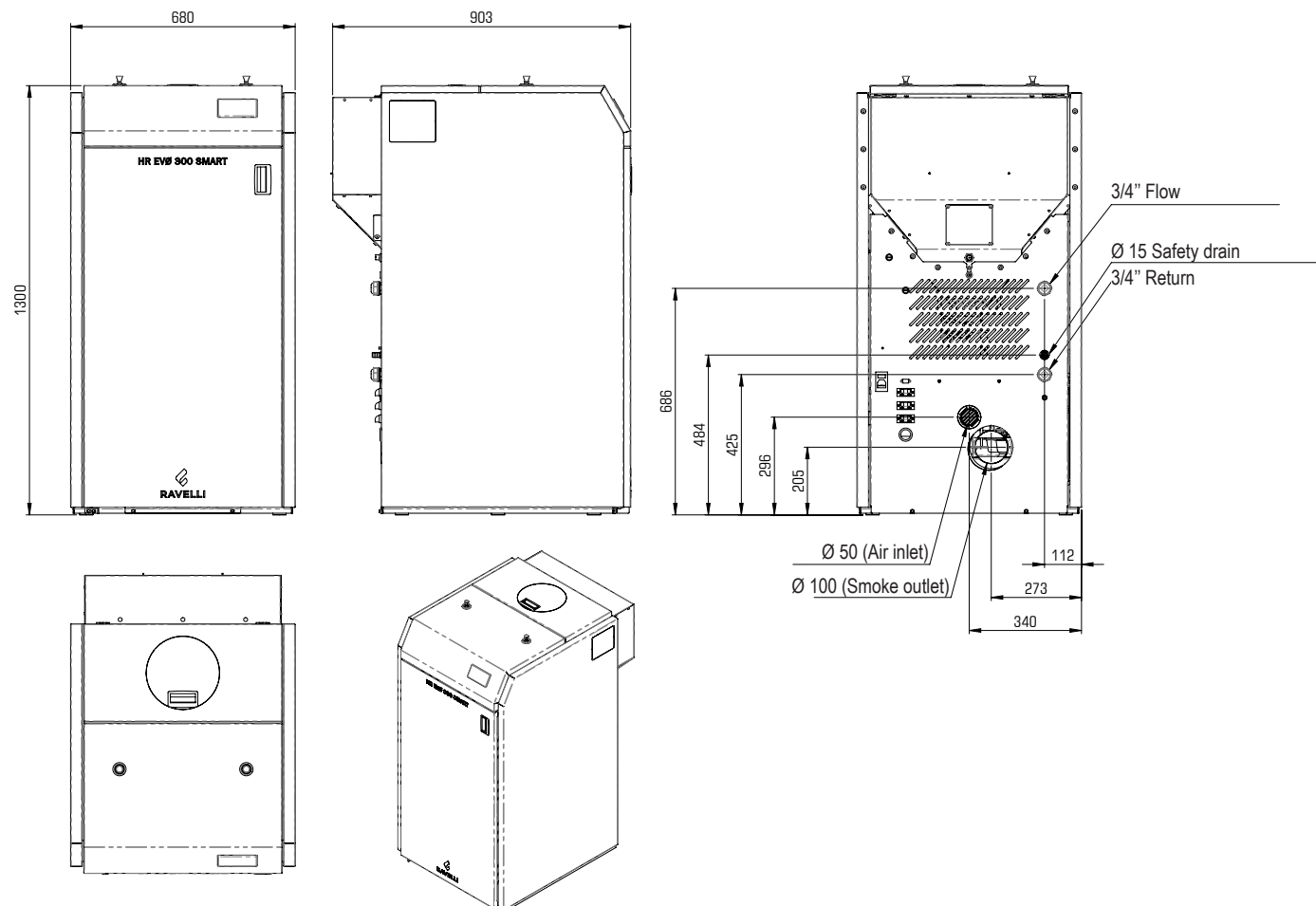
Residual prevalence



Measurements

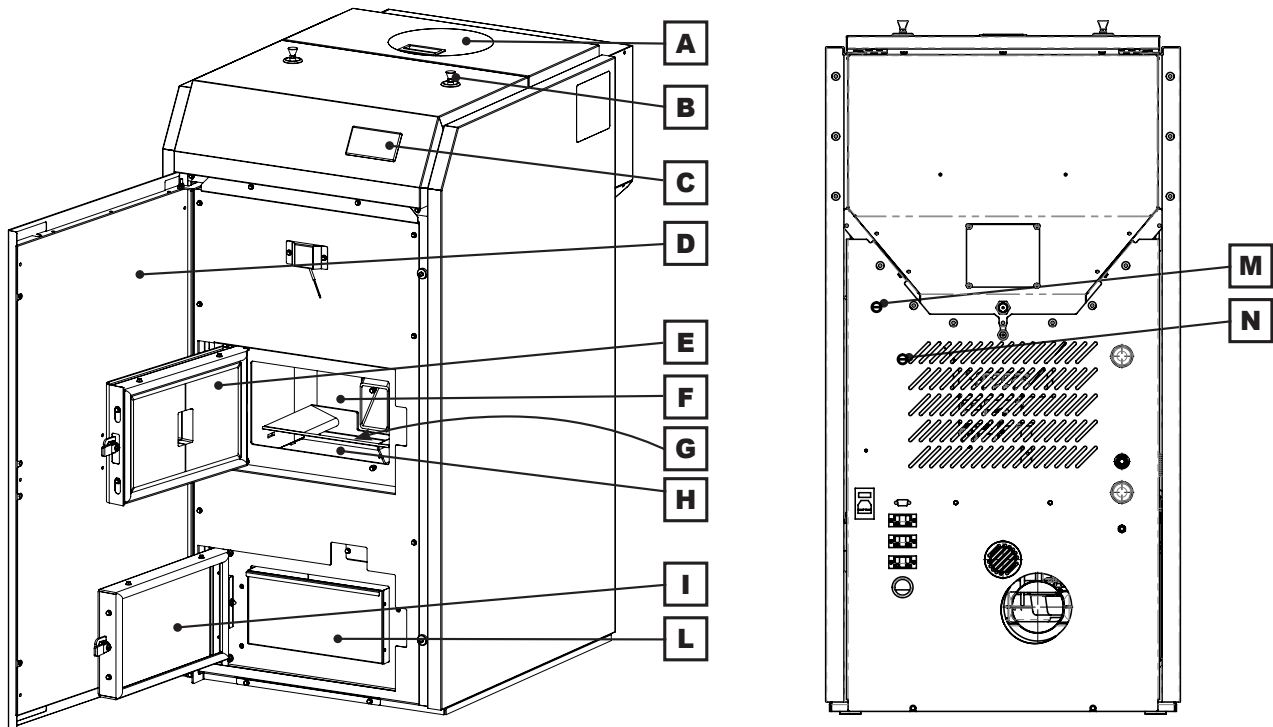
	Unit of measurement	HR EVO 300 Smart	HR EVO 350 Smart
Height	mm	1300	1300
Width	mm	680	680
Depth	mm	903	903
Weight	kg	315	315

Technical diagram HR EVO 300 Smart, HR EVO 350 Smart



Main parts

	element		element
A	Pellet hopper lid	G	Fire pot
B	Turbulators	H	Ash chute
C	Control panel	I	Ash drawer door
D	External door	L	Ash drawer
E	Combustion chamber door	M	Thermal reset pellet
F	Combustion chamber	N	Thermal reset water



Description of operation

Ravelli pellet boiler HR EVO Smart are appliances for domestic heating powered by wood pellets with automatic loading. The heat generated by the combustion of the pellets is transferred to the water in the heating system of the house or to the domestic hot water.

With these boilers it is possible to manage different types of hydraulic system, as described in this manual.

The boiler is controlled by an electronic control unit that manages the start-up, operation and shutdown phases and also includes many other functions for control, programming and safety.

The user can set the system water temperature and the boiler will manage the power to ensure maximum comfort. Among the functions of the electronic control unit there is also that of being able to program the boiler's start-up and shutdown by setting the weekly chronothermostat.

Ravelli's patented cleaning system minimises maintenance by the user. There is no longer any need to clean the brazier before each lighting and all cleaning operations are reduced to a minimum.

FUNCTION	DESCRIPTION	FUNCTION	DESCRIPTION
Fire pot	With automatic cleaning system	Operation with Puffer	Available
Chronothermostat	Weekly 4 programs	Operation with domestic hot water (DHW) tank and three-way valve	Can be activated
Pump	Available	Anti-condensation system	Can be activated
Function summer / winter	Available	Concealed handle	Available
DHW KIT	Optional	Air-flow meter	Available

Automatic cleaning system

The boiler is equipped with automatic brazier cleaning system. This means that there is no need to carry out daily manual cleaning of the brazier or every time the boiler is lit. The automatic cleaning system is activated every time the boiler is lit and after 6 hours of continuous operation. The cleaning cycle, which involves shutting down, automatic cleaning and restarting the boiler, takes about 10 minutes. During this period the heating is guaranteed by the heat accumulated by the appliance itself.

Note: the times indicated are those set by default by the Manufacturer.

Recharge the fuel



Use only wood pellets, the characteristics shown in this manual.



During pellet loading prevent the pellet bag from coming into contact with hot surfaces.



It is not recommended to empty the pellet bag directly into the hopper to avoid depositing wood sawdust on the bottom of the hopper.

To load the pellets inside the hopper, proceed as described below:

	step
1	Open the pellet hopper cover
2	Pour the pellets into the hopper
3	Close the pellet hopper cover

When the pellet is running out, the signal appears on the display thanks to the sensor with which the boiler is equipped.

Doors opening

Open the outer door to gain access to the combustion chamber part and the ash compartment part.

The door can be opened using the handle provided.

The combustion chamber door and the ash drawer can only be opened when the boiler is in the OFF state.

If one of them is not closed, the pellet supply is interrupted.

If the combustion chamber door, the pellet hopper lid and / or the ash drawer are not closed within 1 minute, the boiler switches off signaling ALARM M.

Opening the doors also interrupts the automatic cleaning phase of the brazier. In the event of a prolonged interruption of the cleaning phase, ALARM N may appear.

Remember that in the presence of an alarm the boiler will have to be restarted manually.

User training

Once installation is complete, the user must always be fully trained in the functions and characteristics of the boiler by the technician authorized by Ravelli to ensure optimal and safe use.

The training should cover the following topics:

- Description of the boiler, its operation and basic settings
- How to turn the boiler on and off safely
- Fuel storage and refilling
- What to do in the event of an alarm, in particular that of "no ignition"
- How to clean the boiler correctly and the importance of performing it on a regular basis
- It is advisable to schedule the first annual maintenance

Safety devices

The boiler has been designed and equipped with safety systems to minimize user risks.

It is equipped with the safety devices listed in the following table, which also intervene in case of failure of the electronic board.

Element	Description
Water temperature thermostat	If the water temperature exceeds the set safety value, it immediately stops the pellet loading motor and the boiler is automatically switched off; to restart it, it is necessary to wait until it has cooled down and manually reset the thermostat, using the appropriate button.
Pellet tank thermostat	If the temperature exceeds the set safety value, it immediately stops the pellet loading motor and the boiler is automatically switched off; to restart it, it is necessary to wait until it has cooled down and manually reset the thermostat, using the appropriate button.
Pressure switch	If the pressure in the smoke outlet duct is too high (a sign that the smoke evacuation system is obstructed) it immediately stops the pellet loading motor and the boiler switches off automatically.
Combustion chamber door closing limit switch, the ash drawer and pellet hopper lid	If the door of the combustion chamber, the ash drawer and pellet hopper lid are not properly closed, they immediately stop the pellet loading motor; if they are not closed within 60 seconds, the boiler switches off automatically.
Safety valve for water overpressure	In the event of overpressure of the hydraulic system, the safety valve opens discharging water, so that the boiler is not damaged.
Electrical safety	In case of failure of the electrical components or wiring, the fuse and grounding keep the appliance safe. It is necessary that the electrical system of the house is up to standard, equipped with a grounding circuit and all the safety systems required by the standards.

It should be noted that the boiler's operating program has been designed to stop boiler operation in the event of malfunctions:

Anomalies	Description
Temperature in the combustion chamber	If the temperature probe in the combustion chamber detects temperatures that are too high or too low, the boiler is switched off and the relative alarm is displayed.
Flue gas temperature	If the temperature probe at the smoke outlet detects temperatures that are too high, the boiler is switched off and the relative alarm is displayed.
Water over-temperature	If the water temperature in the boiler, detected by the appropriate probe, is too high, the boiler is switched off and the relative alarm is displayed.
Water pressure	If the water pressure in the boiler, detected by the pressure transducer, is too high or too low, the boiler is switched off and the relative alarm is displayed.
Smoke fan break	If the fan stops, the electronic board blocks the supply of pellets and the alarm is displayed.
Gear motor failure	If the gear motor stops, the appliance switches off safely.
Temporary power failure	If a power failure occurs during operation, when the power returns the temperature in the combustion chamber is checked and, if necessary, the boiler goes into cooling mode.
No ignition	If no flame develops during the ignition phase, the boiler goes into alarm.



It is forbidden to tamper with the safety devices. Restarting the product is only possible after eliminating the cause that caused the intervention of the safety system. To understand which anomaly occurs, consult this manual which explains, depending on the alarm message that the device displays, how to intervene on it.



If the problem persists, contact the Support Service.

SHIPPING AND INSTALLATION

Safety warnings for transportation and installation



The appliance must be installed by a qualified technician, who must issue a declaration of conformity of the system to the purchaser, taking full responsibility for appliance installation and correct operation.



The appliance installation site must be chosen so that the generated heat can spread evenly throughout the rooms that you wish to heat.



During transport and storage, avoid exposure to rain or persistent humidity.



The appliance needs to be connected to a single chimney that guarantees the draught declared by the Manufacturer and observes the installation regulations that apply to the installation site.



The room where the appliance is installed must have an air intake.



The air vent must be installed in such a way that it can not be blocked.

The Manufacturer will not be held liable for installation that is not compliant with the laws in force, incorrect air circulation in the rooms and inappropriate use of the appliance.

In particular, it is necessary:

- that the appliance be connected to a smoke evacuation system duly sized to guarantee the draught declared by the Manufacturer, that is tight and observes the distances from flammable materials;
- that there is a suitable combustion air intake in compliance with the type of installed product;
- that other installed combustion appliances or devices do not create a vacuum in the room where the appliance is installed;
- that the safety distances from flammable materials are observed.

Verification of system compatibility has a priority over any other assembly or installation operation.



Local administrative regulations and particular requirements of the authorities pertaining to the installation of combustion appliances, the air intake and the smoke evacuation system, may vary based on region or nation. Check with your local authorities if there are stricter laws than set forth herein.

Packaging

When the appliance arrives, check:

- that it is the model you ordered;
- that it has not been damaged during shipping.

Any complaints must be reported to the deliveryman (also on the delivery note) upon receipt.



Check the capacity of the floor before handling and positioning the appliance.

To handle the appliance in its packaging, follow the procedure below:

- 1 Position the pallet truck forks in the slots under the wooden pallet.
- 2 Lift slowly.
- 3 Place the appliance near the chosen location for installation.



The appliance always needs to be handled vertically. Take extra care to protect the door and its glass against mechanical impact that could jeopardise their integrity

To unpack the appliance, follow the procedure described below:

- 1 Cut the straps and remove the wooden reinforcement frame resting on the box
- 2 Slowly lift the cardboard box
- 3 Remove any bubble-wrap or similar
- 4 Remove the appliance from the pallet and position the appliance in the chosen location, ensuring that it is compliant with the directions.

If the appliance is packed in a wooden cage, replace steps 1 and 2 of the previous table with the steps described below:

- 1 Remove the side straps by unscrewing the fixing screws
- 2 Remove the upper and side wooden cage



Use suitable equipment to remove the boards or wooden parts of packing.



The end user is responsible for disposing of the packaging in accordance with the laws in force in the country of installation.

Set-ups for the smoke evacuation system



Be careful when building the smoke evacuation system and observe the regulations in force in the country where the appliance is installed.



The Manufacturer will not be held liable for incorrectly sized and non-regulation smoke evacuation systems.

Smoke ducts and fittings

The term smoke duct indicates all ducts that connect the combustion equipment to the chimney.

The following requirements need to be applied:

- observe product standard EN 1856-2;
- the horizontal sections must have a minimum slope of 3% upwards;
- the length of the horizontal section must be as minimum as possible, and its projection on the horizontal plane must not exceed 2 metres;
- changes in direction must not have an angle of more than 90° (45° bends are recommended);
- the number of direction changes, including the one necessary for insertion into the chimney, must not exceed 3;
- the cross section must have a constant diameter, the same from where it exits the firebox up to the fitting into the chimney;
- it is forbidden to use flexible metal and fibre cement pipes;
- smoke ducts must not cross rooms where the installation of combustion equipment is prohibited.

In any case, the smoke ducts must be sealed against combustion products and condensation, as well as insulated if they lead outside of the installation room.

Installing manual draught adjustment devices is not allowed.

Chimney

The chimney is a particularly important element for correct appliance operation.



The chimney must be sized so as to guarantee the draught declared by the Manufacturer.



Do not connect the appliance to a collective chimney.

The chimney must be built applying the following regulations:

- it must observe product standard EN 1856-1;
- it must be made of materials that are suitable to guarantee resistance against normal mechanical, chemical and thermal stress and be correctly thermally insulated to limit the formation of condensation;
- it must be mainly vertical and not feature any bottlenecks along its entire length;
- it must be correctly spaced with an air gap and insulated from flammable materials;
- there must be a maximum of 2 changes in direction and angles must not exceed 45°;
- the chimney inside the home, however, must be insulated and can be inserted into a skylight shaft, as long as it respects standards regarding placing inside a tube;
- the smoke conduit must be connected to the chimney using a "T" fitting with an inspection collection chamber for combustion residue and especially for collecting condensation.



It is necessary to check the safety distances that need to be observed when there are flammable materials and the type of insulating material that needs to be used is on the chimney data plate.



Use watertight pipes with silicone seals.



It is forbidden to use the discharge mounted directly on the wall or directed towards indoor spaces and any other type of discharge that is not set forth by the regulation in force in the country of installation (Note: in Italy only roof-discharge is allowed).


Chimney pot


The chimney pot, i.e. the top end of the chimney, must fulfil the following characteristics:


- the cross-section of the smoke outlet must be at least twice the internal cross-section of the chimney;
- it must stop water or snow from getting in;
- make sure the smoke is taken away even when there is wind (wind resistant chimney pot);
- the outlet height must be outside of the reflux zone (refer to national and local regulations to calculate the reflux zone);
- it must always be built at a distance from antennas or dishes, it must never be used as support.

Installation

 For appliance installation and use it is necessary to observe all of the local, national and European laws and regulations.


 Appliance installation and the preparation of the building work must observe the regulation in force in the country of installation (ITALY = UNI 10683).


 The installation activities must be carried out by a technician that is qualified and/or authorised by the Manufacturer. The staff in charge of installation must issue a declaration of conformity of the system to the buyer, whereby they take full responsibility for the final installation and good operation of the installed product.

 Ravelli shall not be held liable if these precautions are not followed.


Requirements for the installation premises


The appliance installation room must be sufficiently ventilated. To fulfil this requisite it is necessary to equip the room with an air intake connected to the outdoors.


 The installation room must have an air intake with a free cross-section of at least 80 cm² or 100 cm² in case of boiler.

 For installation in the presence of other combustion appliances or VMC system it is necessary to check the appliance for correct operation.

The appliance must be placed inside living quarters. It must never be installed outdoors. The volume of the room where it is installed must be suitable for the power of the appliance and, in any case, greater than 15 m³.

 When extraction fans (example: extraction hoods) are used in the same room or space as the appliance, this can cause problems to appliance operation.

 The appliance must be installed on a floor with suitable load capacity. If the existing position does not fulfil this requirement, it is necessary to take due measures (for example, using a load distribution plate).

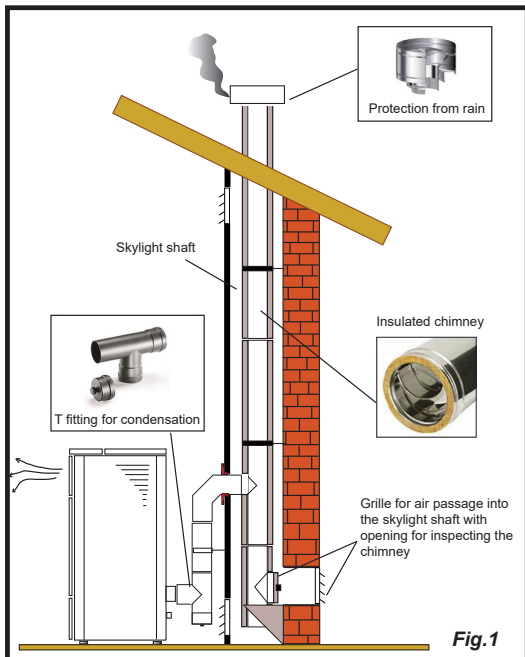
 Provide due insulation if the surface is made of flammable material.

If the side walls adjacent to the appliance are made of a flammable material, it will be necessary to position the appliance at least 30 cm from them.

If the floor that the appliance is standing on is flammable, we recommend duly insulating it. Objects and parts that are heat-sensitive or flammable cannot be stored near the appliance; in any case, keep such objects outside the area bounded by the minimum distances indicated above.

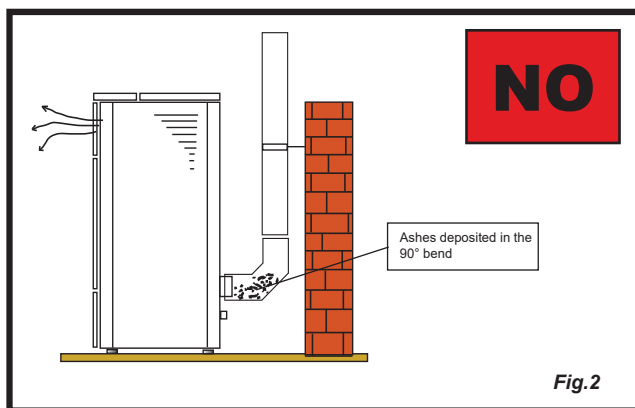
Appliance installation must guarantee easy access to clean the appliance, the exhaust ducts and the chimney.

Installation example

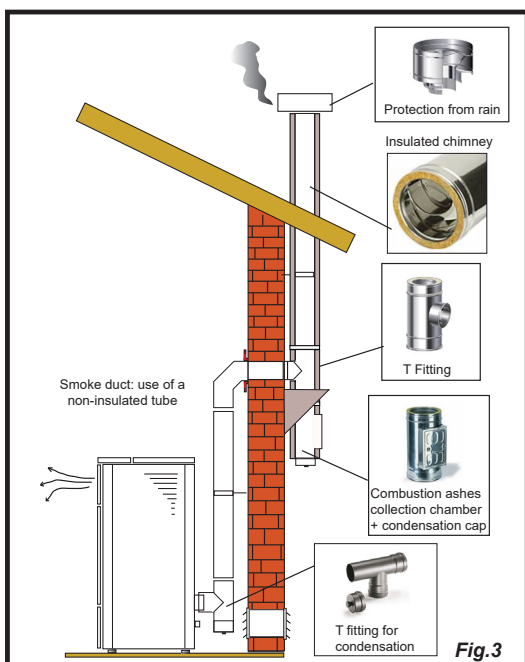


This type of installation (See Fig.1) requires an insulated chimney pot, even if the entire conduit is installed inside the building. Besides, the structure must be inserted into a properly ventilated skylight shaft.

In the lower part of the chimney pot there is an inspection cover, properly isolated from wind and rain.

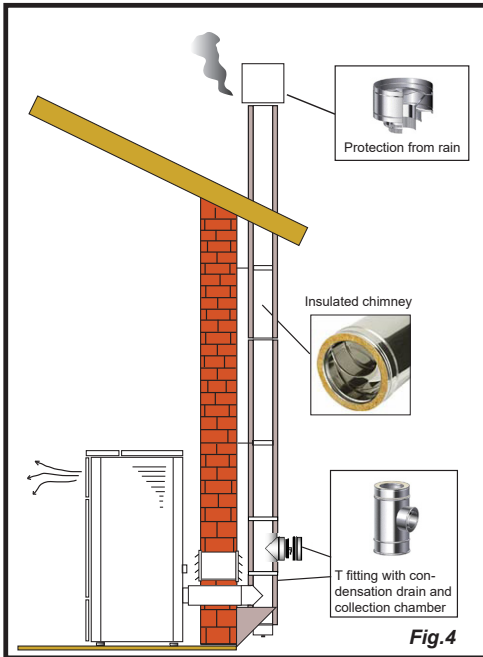


It is prohibited to install a 90° bend for the initial segment, since the ashes would quickly obstruct smoke passage, causing draught problems in the appliance. (See Fig. 2)



It is possible to use an existing chimney or a shaft via ducting. For this type of installation the standards on ducted smoke evacuation systems must be complied with. In the lower part of the chimney pot, inside the home, there is a "T" type fitting installed; externally there is another one installed, so that the outside section can be inspected.

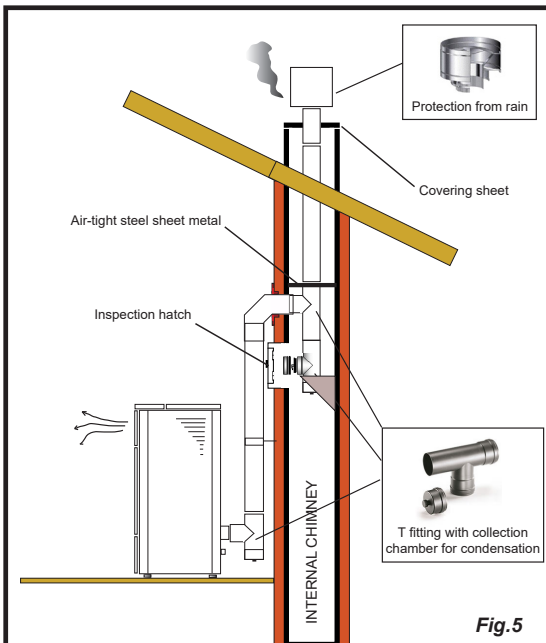
It is prohibited to install two 90° bend, since the ashes would quickly obstruct smoke passage, causing draught problems in the appliance. (See Fig. 2)



This type of installation (See Fig.4) requires an insulated chimney pot, even if the entire smoke conduit is installed outside the building.

In the lower part of the chimney there is a "T" type fitting installed with inspection cap.

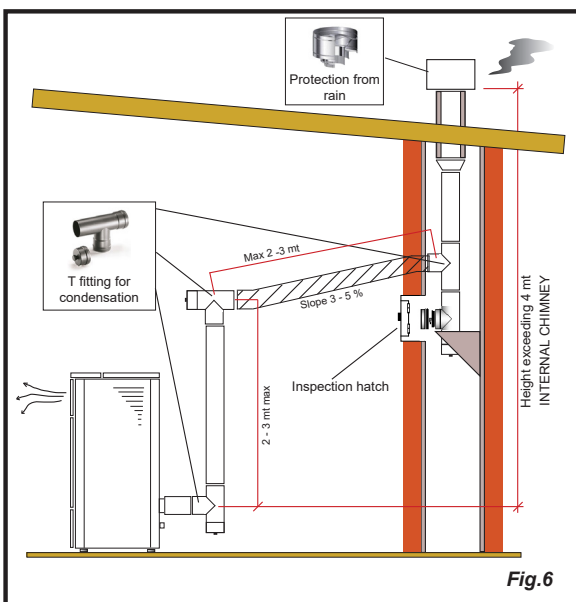
It is prohibited to install a 90° bend for the initial segment, since the ashes would quickly obstruct smoke passage, causing draught problems in the appliance. (See Fig.2)



This type of installation (See Fig.5) requires an insulated chimney pot, since the entire smoke conduit is installed inside the building, and the part is located inside a pre-existing chimney pot.

In the lower part of the appliance there is a "T" type fitting installed with inspection cap just like for the chimney pot.

It is prohibited to install a 90° bend for the initial segment, since the ashes would quickly obstruct smoke passage, causing draught problems in the appliance. (See Fig.2)



This type of installation (See Fig.6) requires a horizontal section to connect to a pre-existing chimney pot.

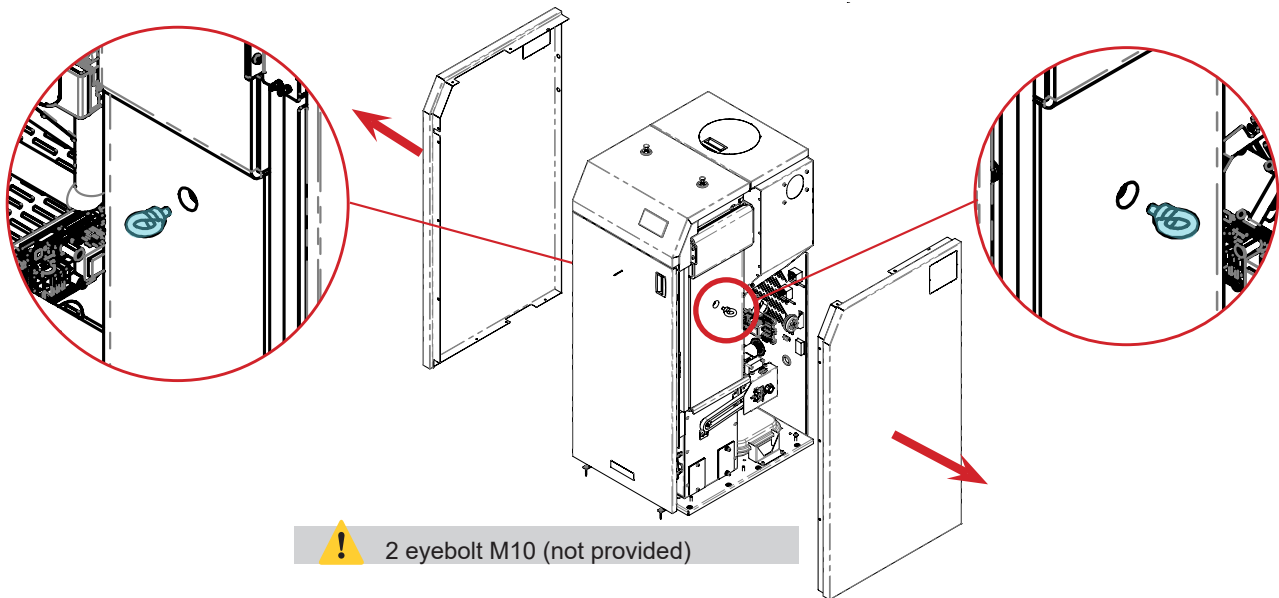
Respect the slope indicated in figure, in order to reduce the ashes depositing in the horizontal tube. In the lower part of the chimney pot, there is a "T" type fitting installed with inspection cap, in the same way as the chimney pot opening.

It is prohibited to install a 90° bend for the initial segment, since the ashes would quickly obstruct smoke passage, causing draught problems in the appliance. (See Fig.2)

Other handling systems

The boiler must be handled carefully, avoiding any bumping, always keeping it upright for transport and only using forklifts; alternatively, it can be moved using lifting straps connected to the appropriate hooks.

Make sure the equipment used for lifting and transport can take the boiler's weight, specified on the data plate and in this manual.



Place of installation, positioning

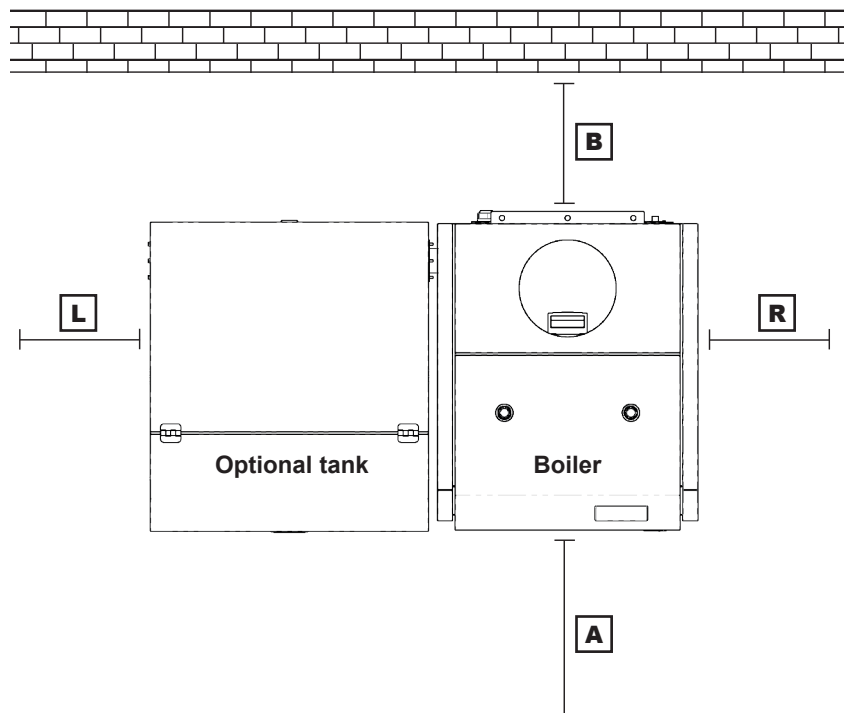
Place the boiler in the required location, making sure it is possible to operate and service the unit in any position needed to do the work.

Check that the room where the appliance is installed has the upper, side and rear spaces required for maintenance and cleaning of the appliance, the flue gas ducts and the flue pipe.

Also check that the pellet hopper is easily accessible for fuel loading.

The minimum distances for maintenance and safety must comply with the following table:

Minimum maintenance distances	
R Right side	500 mm
L Left side	500 mm
B Rear	500 mm
A Front	1000 mm
Minimum height of the installation room	2,3 m



The unit is suitable for operation in technical environments with min. temperature not below 0°C; it comes complete with an antifreeze function that activates the heating pump for system water temperatures below 6°C, safeguarding: heating chamber, heating/DHW circuit. The antifreeze function is active only when the boiler is electrically powered.

CONNECTIONS



The connections must be set up by a technician that is qualified and/or authorised by the Manufacturer.



By the installer the type of cable, with relative section, to be installed in case of replacement is: H05RR-F sez.3G0,75

Chimney connection



The chimney must be sized so as to guarantee the draught declared by the Manufacturer.



The boiler must be connected to a single flue. It is forbidden to connect the boiler to a flue shared with other combustion appliances or with hood exhausts.



The flue must be inspectable for cleaning.

Components

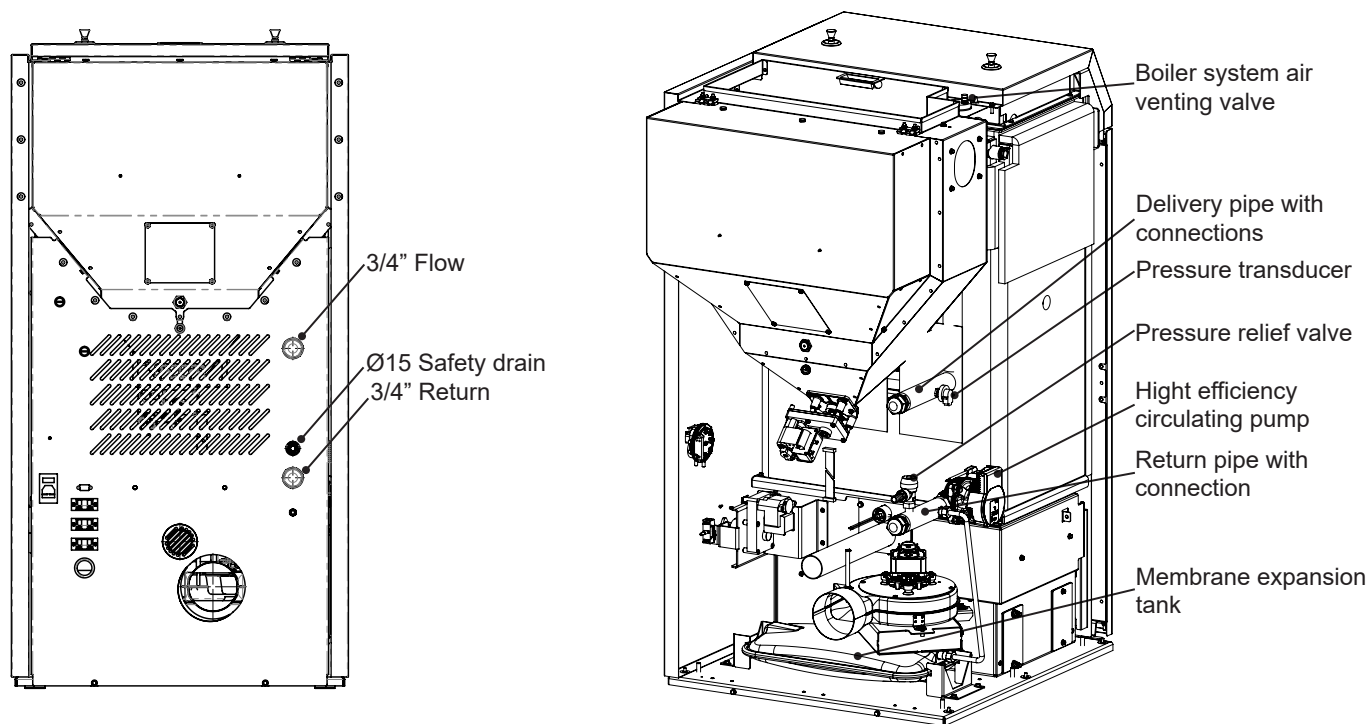
This boiler is equipped with the following control and safety components:

- 3 bar safety valve;
- Booster pump control thermostat (integrated in the functions of the electronic board);
- Acoustic alarm activation thermostat (integrated in the functions of the electronic board);
- Temperature indicator (integrated in the functions of the electronic board, with display);
- Pressure indicator (integrated in the functions of the electronic board, with display);
- Acoustic alarm (integrated in the functions of the electronic board);
- Automatic regulation thermal switch (integrated in the functions of the electronic board);
- Automatic blocking thermal switch (manual reset thermostat);
- Circulation system;
- Expansion system (Expansion vessel).

Local laws and regulations (for example the UNI 10412-2 standard valid in Italy) could provide for other safety components. In this case they must be mounted in the system.

The construction of a heating system with the relative installation of the boiler must comply with all national and local regulations in force in the place where the system is carried out.

Boiler-system connection



Connect the boiler to the hydraulic system so as not to constrain it excessively and to allow it to move slightly.



Before connecting the boiler, it is strongly recommended that the system be thoroughly washed in order to eliminate residues and deposits.

Electrical connection

The plug of the boiler's power cable must only be connected after the installation and assembly has been completed of the appliance, and must remain accessible after installation.

To make the electrical connection, proceed as described below:

First connect the power cable to the plug on the back of the boiler and then to a wall socket.

Supply power to the boiler by turning the switch to position (I).



When the boiler is not in use, it is advisable to disconnect the power cable.



Take care that the power cord (and any other cables outside the equipment) do not come into contact with hot surfaces.



Ensure that the electrical system is grounded.



Make sure the electrical system and the sockets are suitable for the maximum absorption of the unit, specified on the label and in this manual.



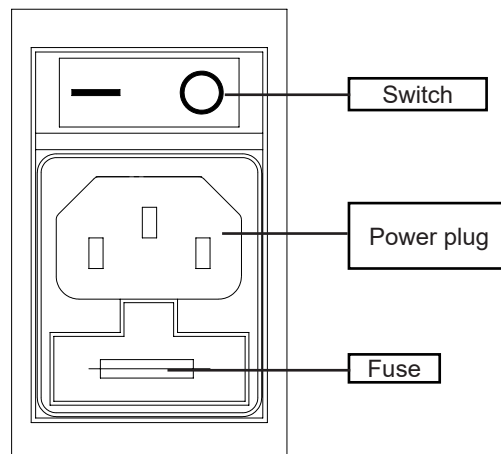
For direct connection to the mains, it is necessary to provide a device that ensures disconnection from the mains, with a contact opening distance that allows complete disconnection under the conditions of over-voltage category III, in accordance with installation rules



If the power supply cable is damaged, it must be replaced by the manufacturer or its technical assistance service or in any case by a person with similar qualifications, so as to prevent any risk.



It is recommended that authorized personnel pay special attention to the electrical connections after any work on the product.



Connection of external probe or thermostat

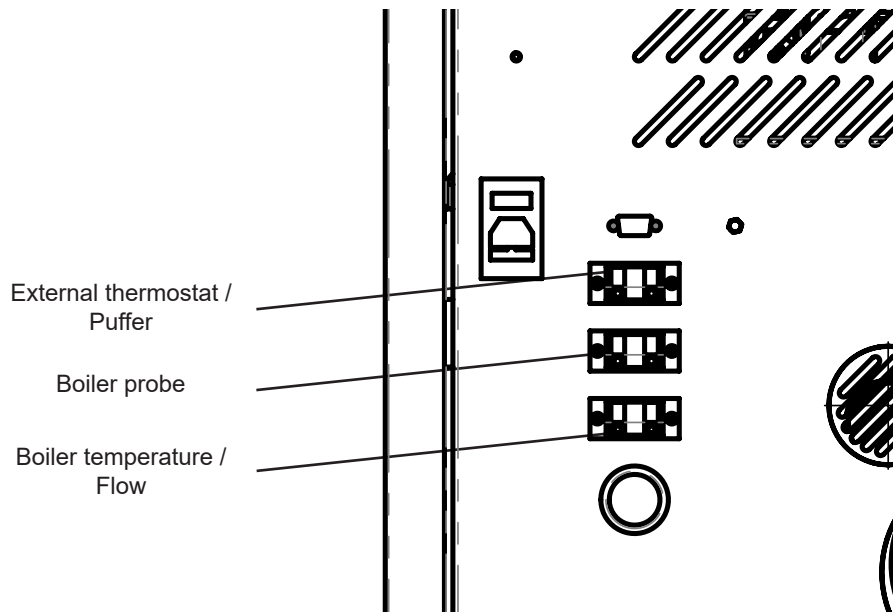
To manage the boiler using an external thermostat (optional), connect it to the appropriate terminals on the board, as shown in the Electric scheme.



Connect an open/closed external thermostat, therefore potential-free.



If you intend to use the “comfort clima” function, we recommend you use a thermostat with a minimum offset of 3°C.




Testing and commissioning


Boiler start-up must be preceded by testing, which includes an operational check of the following elements:


- connection to the smoke evacuation system;
- electrical connections;
- hydraulic connections;
- operation of any connected external probes;
- checking that all materials used to build the smoke duct, chimney and chimney pot are regulation and suitable for use.

The testing is positive only when all operational phases have been completed without any anomaly being detected.

PLUMBING SYSTEM CONNECTIONS


 Plumbing must always be carried out by qualified personnel, able to carry out a state-of-the-art installation in compliance with the laws in force in the country of installation, after having read the next chapter. Ravelli denies all liabilities for damages to people or property arising from malfunctions due to failure to comply with this warning.

 These products are designed to operate correctly and safely in closed-cup hydraulic systems.

 Connect the unit to the heating system; under no circumstances can it be used without the hydraulic connection and without water in the heating chamber and system.

Installation advice

The heating system must be sized appropriately based on the power of the boiler. If necessary, rely on a thermo-technician. After placing the appliance and installing all fume exhaust pipes, you can connect the hydraulic system. It is recommended to connect the appliance to the system by means of ball valves or gate valves, in order to enable easy detachment, if needed.


 During transport, the rings and respective seals in the water system may come loose and/or break, causing water leaks during operation; therefore make sure to check the tightening of the circulating pump and heating chamber connection rings and vent the residual air during water filling and after the first hours of operation.


3 bar safety valve (overpressure device)

It is mandatory to connect the safety drain of the appliance to an adequate evacuation system. The connection can be made using a rubber hose resistant to temperatures of at least 110 ° C.

Please note that in case of intervention of the 3 bar safety valve, part of the water contained in the system is expelled from the safety drain.

 It is forbidden to connect a shut-off valve to the safety drain outlet.

 The water coming out of the safety valve could be hot! Danger of burns and damage to people and things!

 The manufacturer is not responsible for any damage to persons or things caused by failure to connect the safety drain or by an inadequate connection.

Expansion vessel

Check that the expansion vessel fitted as standard on the appliance is sufficient for the volume of water contained in the system. Otherwise it will be necessary to install an additional expansion vessel on the system.

Anti-condensation valve

In solid fuel appliances, to avoid the return of cold water in the heating chamber during the heating phase, it is advisable to install in the system an AUTOMATIC THERMOSTATIC VALVE (available on request) to improve combustion efficiency and appliance life and also reduce the condensation of fumes in the flue ways, with less deposits and tars.

Storage systems (puffer, boiler)

Solid fuel appliances are, by their nature, devices with high thermal inertia. To increase the heat output of the system, reduce the on / off cycles, reduce cleaning interventions and have hot water always available, it is recommended to install thermal accumulators in the system, such as puffers for technical water or boilers for domestic hot water. There are many combined solutions on the market (puffer tank in tank, pipe in tank, etc.), which allow to meet all needs.

Hydraulic diagrams

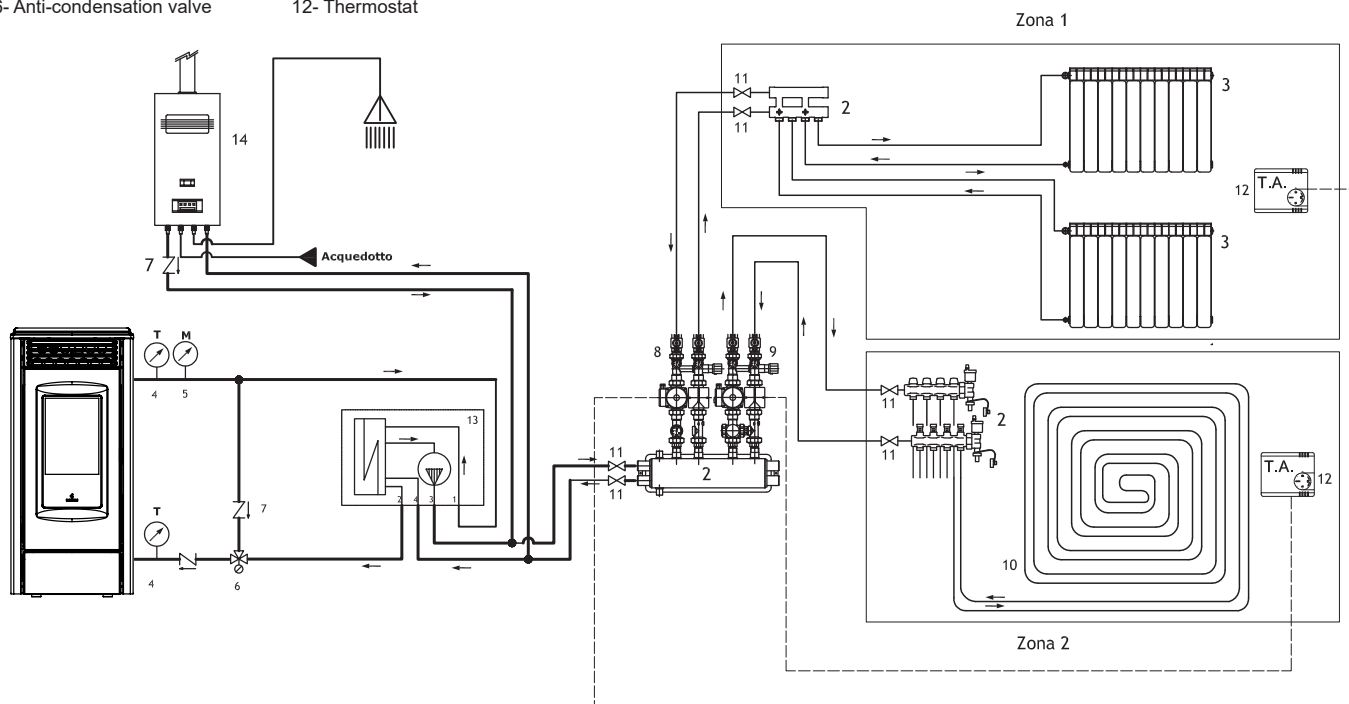
With this appliance, different types of system can be handled - both those where appliances are directly connected to heating circuits, and more complex systems with accumulators (Boilers, Buffer tanks or both) for DHW production. The hydraulic diagram to be used or the activation of the reading of the appropriate probes must be chosen via the display by an authorised technician when the appliance is installed.

Diagram 0 (heating system only)

In this type of circuit, the appliance is directly connected to the heating system. This is the default set diagram.

LEGEND

- | | | |
|----------------------------|--|-----------------------------|
| 1- Pellet stove / boiler | 7- Check valve | 13- Power separation system |
| 2- Distribution manifolds | 8- Group of direct distribution | 14- Gas boiler |
| 3- Radiators | 9- Thermostatic distribution unit | |
| 4- Thermometer | 10- Radiant panel (underfloor heating) | |
| 5- Pressure gauge | 11- Shut-off valve | |
| 6- Anti-condensation valve | 12- Thermostat | |



The diagram shown here is indicative and may not display all the components required to properly operate the system. Rely on a qualified thermal technician for the hydraulic system design.

NOTE: The DHW KIT can also be used in this diagram

Diagram 1 (boiler sensor)

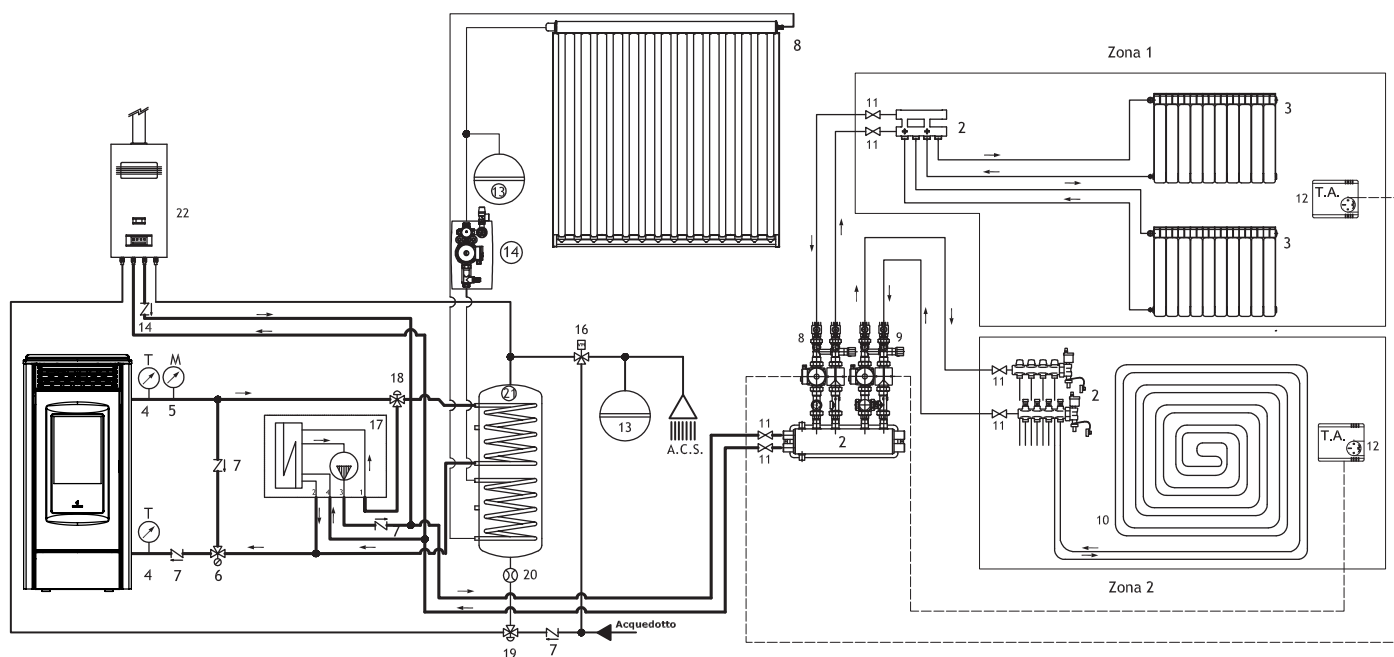
Diagram 1 allows operating a heating system where there is also a boiler for DHW production. The boiler can be connected to other heat production units, such as solar panels.

With this diagram, the appliance operates to bring the boiler to the set temperature; when the set water temperature is reached, the three-way valve changes position and the appliance begins to exchange heat in the heating system. From now on, the boiler is operated by an external thermostat or by the internal H2O set (as in diagram 0). The appliance reheats the boiler once the boiler water temperature has fallen below the set-point value or when the flow switch (if connected) detects DHW being used.

If the appliance is in ECO STOP mode or in WATER STAND-BY mode, a request by the Boiler of flow meter is added to diagram 0 standard start-up conditions.

LEGEND

- | | | | |
|----------------------------|--|---|--|
| 1- Pellet stove / boiler | 7- Check valve | 13- Expansion vessel (tank) | 19- Motorised three-way valve with spring return |
| 2- Distribution manifolds | 8- Group of direct distribution | 14- Pump station for solar thermal system | 20- Flow switch |
| 3- Radiators | 9- Thermostatic distribution unit | 15- Solar thermal collector | 21- DHW storage |
| 4- Thermometer | 10- Radiant panel (underfloor heating) | 16- Thermostatic mixing valve | 22- Gas boiler |
| 5- Pressure gauge | 11- Shut-off valve | 17- Power separation system | |
| 6- Anti-condensation valve | 12- Thermostat | 18- Motorised three-way valve | |



The diagram shown here is indicative and may not display all the components required to properly operate the system. Rely on a qualified thermal technician for the hydraulic system design.

Diagram 2 (buffer tank sensor)

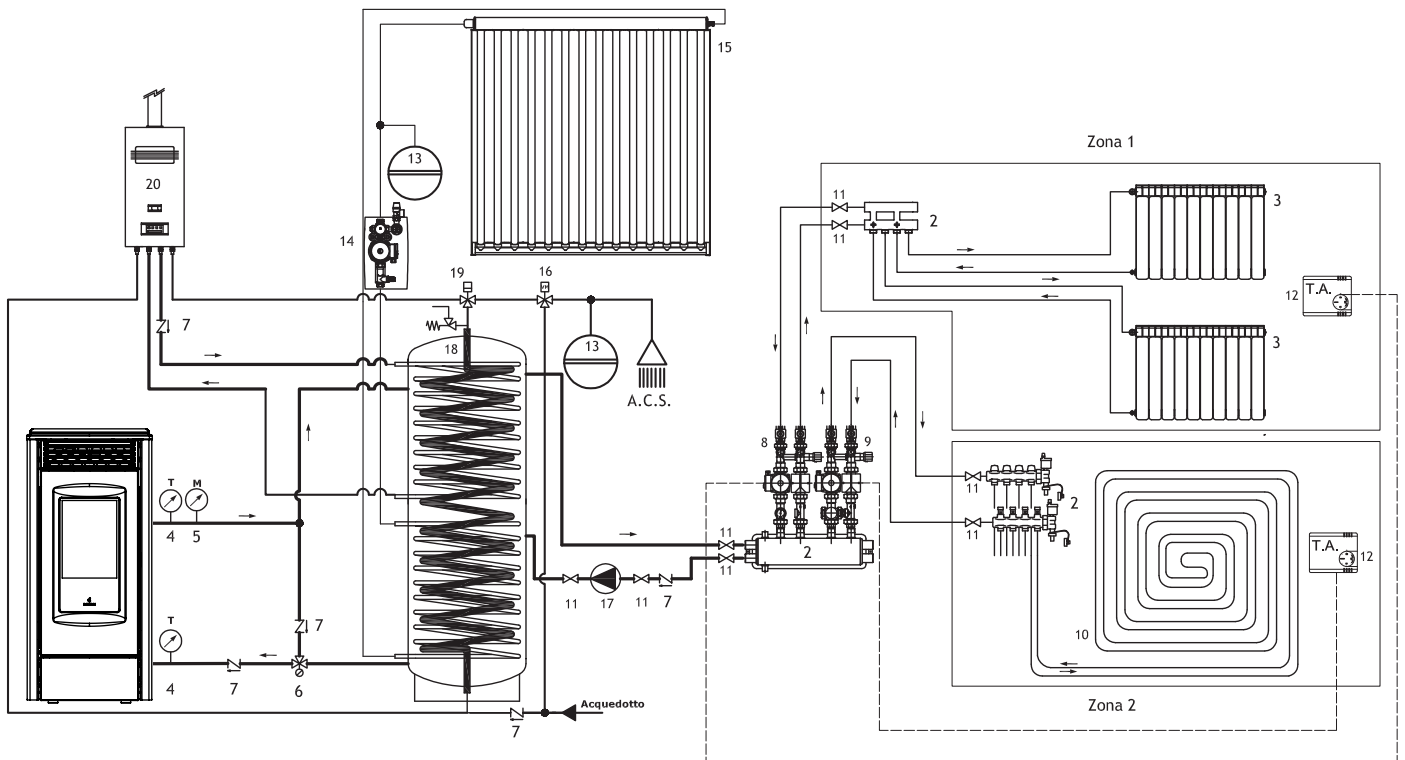
Diagram 2 can be used in a system where there is a buffer tank that operates the heating system and, if pre-set, also DHW production. In this system, the appliance is directly connected to the buffer tank.

In this type of circuit, room temperature is managed by a control unit (not supplied) that controls the buffer tank and any zone valves. The buffer tank temperature is controlled by the appliance through a sensor.

The appliance operates at maximum power to reach the set buffer tank temperature. When it is reached, the appliance enters ECO STOP mode and is automatically restarted if the buffer tank temperature falls below this value. The advantage of using a buffer tank is that it regulates the operation of the appliance. The buffer tank can be connected to other heat production units, such as solar panels and/or gas boiler.

LEGEND

- | | | | |
|----------------------------|--|---|--|
| 1- Pellet stove / boiler | 7- Check valve | 13- Expansion vessel (tank) | 19- Motorised three-way valve with spring return |
| 2- Distribution manifolds | 8- Group of direct distribution | 14- Pump station for solar thermal system | 20- Gas boiler |
| 3- Radiators | 9- Thermostatic distribution unit | 15- Solar thermal collector | |
| 4- Thermometer | 10- Radiant panel (underfloor heating) | 16- Thermostatic mixing valve | |
| 5- Pressure gauge | 11- Shut-off valve | 17- Booster pump | |
| 6- Anti-condensation valve | 12- Thermostat | 18- Buffer tank pipe in tank with DHW | |



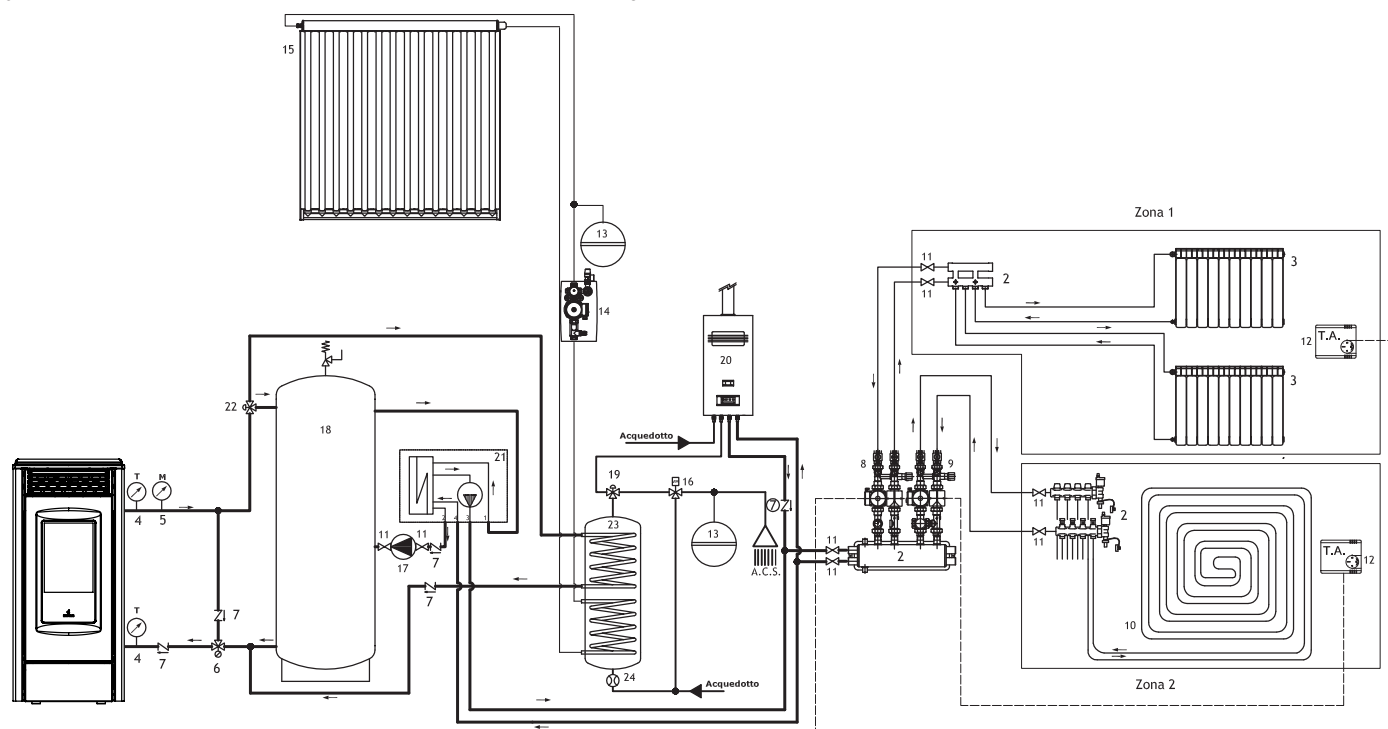
The diagram shown here is indicative and may not display all the components required to properly operate the system. Rely on a qualified thermal technician for the hydraulic system design.

Diagram 3 (boiler sensor + buffer tank sensor)

Diagram 3 is to be used in a system where both a water buffer tank for the heating system and a DHW boiler are present. The operating logic is similar to that of Diagram 1. Also in this type of circuit, the boiler water temperature is managed by the appliance and room temperature by a control unit (not supplied) that controls the buffer tank and any zone valves. The buffer tank temperature is controlled by the appliance through a sensor.

LEGEND

- | | | | |
|----------------------------|--|---|--|
| 1- Pellet stove / boiler | 7- Check valve | 13- Expansion vessel (tank) | 19- Motorised three-way valve with spring return |
| 2- Distribution manifolds | 8- Group of direct distribution | 14- Pump station for solar thermal system | 20- Gas boiler |
| 3- Radiators | 9- Thermostatic distribution unit | 15- Solar thermal collector | 21- Power separation system |
| 4- Thermometer | 10- Radiant panel (underfloor heating) | 16- Thermostatic mixing valve | 22- Motorised three-way valve |
| 5- Pressure gauge | 11- Shut-off valve | 17- Booster pump | 23- DHW storage |
| 6- Anti-condensation valve | 12- Thermostat | 18- Buffer tank | 24- Flow switch |



The diagram shown here is indicative and may not display all the components required to properly operate the system. Rely on a qualified thermal technician for the hydraulic system design.

System water characteristics

The chemical-physical characteristics of the system and replenishing water are important for the proper operation and service life of the appliance; in fact, with the use of low quality water the most frequent problem is due to scale, which causes a reduction in heat exchange and generates corrosion.

Therefore, we invite you to check the quality and hardness of the water with your supplier.

We recommend the installation of a softener (limescale filter) in correspondence with the system loading. This precaution becomes essential in the conditions listed below:

- medium and high water hardness ($> 15^\circ \text{f}$)
- considerable quantities of make-up water or subsequent fillings
- plants of a certain complexity and size.



National and local laws may require the use of water softening systems. The technician responsible for the plumbing installation is invited to check what is reported in the regulations in force.

System water load

Once the plumbing connections have been completed, the appliance and its system can be loaded.

To facilitate the escape of air, unscrew the cap of the automatic vent valve (Jolly valve) of the appliance and open the vent valves in the system. Bleed the air even after the first hours of operation and, if necessary, also periodically (for example in the event of noises and gurgling).

The filling pressure of the COLD system must be 1 bar (100 kPa). In order to ensure correct operation of the appliance, the HOT pressure must be approximately 1.5 bar (150 kPa).

If during operation the system pressure drops to values below the minimum indicated above, the user must bring it back to the initial value by acting on the filling tap.

It is possible to load the system and keep it at the correct pressure also by means of a special automatic filling unit.

Periodically check the system water pressure, using the appropriate function on the display.

BOILER USE

Introduction

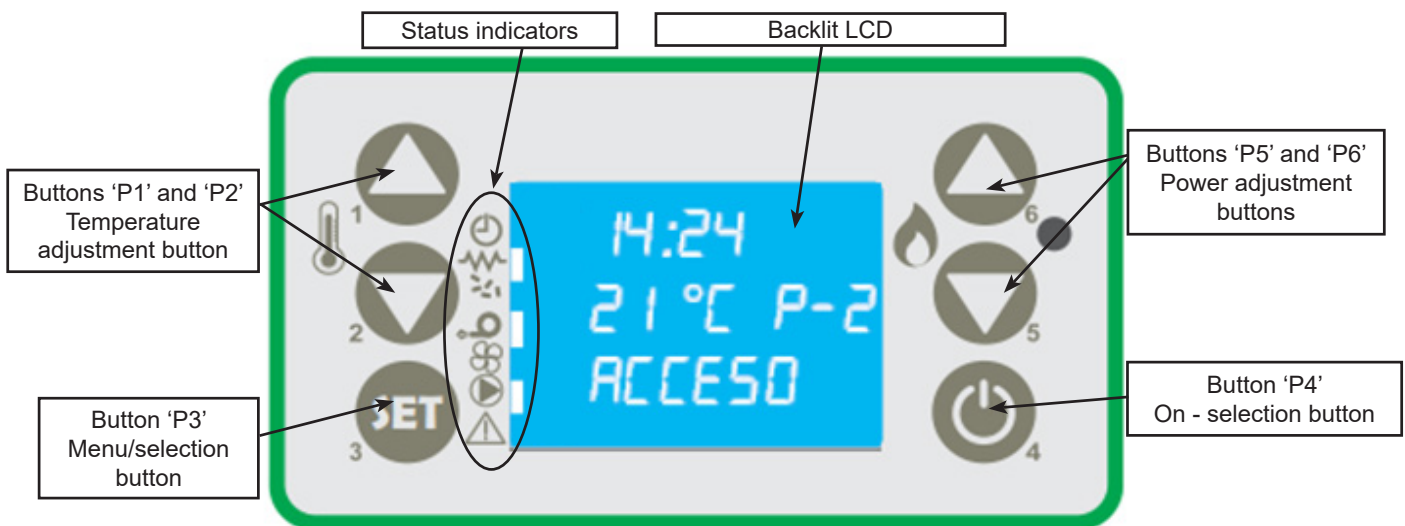
The pellet boiler has the advantage of combining the heat generated by the combustion of wood with the convenience of automatic water temperature management and the possibility of weekly programming of switching on/off, as well as the connection of a thermostat and/or chronothermostat and start-stop remote control.

For safe and reliable use:

- when lighting and using the unit the first time, unpleasant odours may be created, therefore air the room thoroughly;
- the hopper must only be filled with good quality pellets; make sure the bag does not come into contact with the hot surfaces of the boiler;
- do not put any fuel other than the prescribed pellets in the hopper;
- the unit must not be used as a waste incinerator;
- the boiler must only operate with the fire door always closed.
- the fire and ash door seals must be checked periodically to prevent air from entering;
- when lighting the boiler for the first time, allow it to heat up gradually by setting low operating temperatures (see the section on temperature setting);
- during lighting, operation and shutdown, the boiler may creak a little due to the heat expansion.

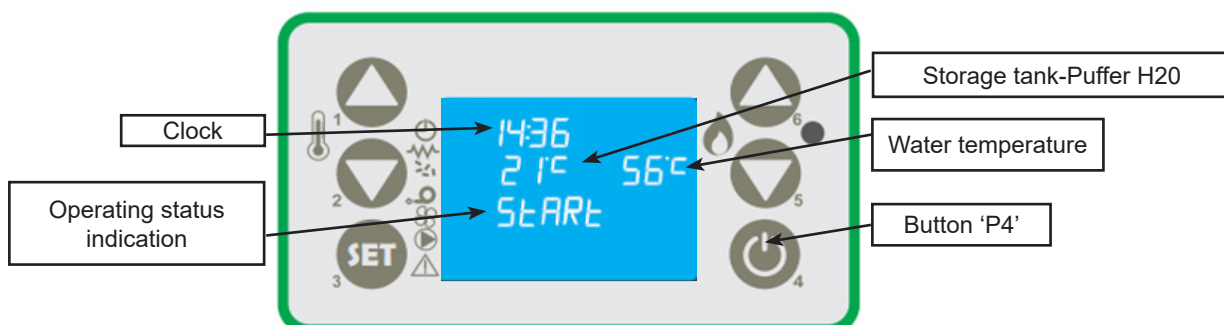
Description of control panel

The display is described below (in "Home" mode):



The panel enables boiler lighting and shutdown, adjustment during operation and the setting of management and maintenance programs.

The display shows all the information on boiler operation status.

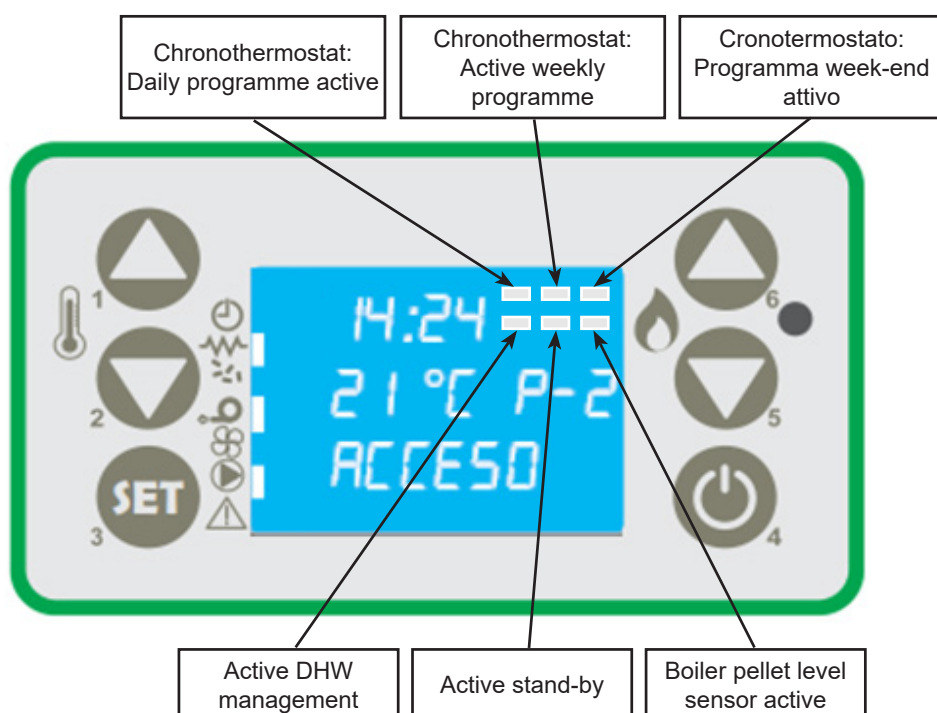


Press buttons 'P1' and 'P2' simultaneously to show the temperature read by probes 1, 2 and 3. Press keys 'P5' and 'P6' simultaneously to show the status of the Heating and DHW inputs.

The Figure opposite describes the meaning of the status indicators in the left part of the display.

Activation of one of the segments signals activation of the corresponding device according to the list opposite

	Crono
	Heater
	Auger
	Fume extractor
	DHW circuit activation
	HEATING circuit activation
	ALARM



Check before lighting

Before lighting the boiler:

- make sure to have read and understood the information given in the manual;
- follow the oral instructions on operation of the unit provided by the installer prior to use.
- the hopper must be filled with pellets;
- the combustion chamber must be clean;
- the brazier must be completely free, cleaned of any combustion residuals and correctly fitted in the brazier holder;
- check hermetic closing of the ash box and fire door;
- check the connection of the power cable and switching to ON/1 of the switch located on the back of the boiler.
- check opening of the delivery and return shutoff valves as well as the water circuit pressure.

Before switching on the boiler it is important to check that the turbolator shaker device is at rest or in the lower position. An incorrect position of the turbolators leads to malfunctions and an excessive formation of dust and unburnt parts.



At first startup, remove all the components that could burn (instructions/label) from the boiler firebox.

The use of pellets with different characteristics to those tested by the technician during the first start-up implies a new calibration of the boiler pellet load parameters; this intervention is excluded from the warranty.



Any lighting done after long idle periods requires the removal of any residual pellets that have remained inside the hopper and complete cleaning of the combustion chamber.

Auger loading

Before starting the boiler for the first time, whenever the boiler is in alarm "06 - Pellets finished", and in any case whenever the hopper has emptied completely, the initial feed screw loading is required. This phase serves to fill the pellet loading system so that, at the time of ignition, the correct pellet loading takes place in the brazier. In the event that the feed screw operations are not carried out, there may be boiler ignition failures.



It is not necessary to remove the pellets in the brazier: the pellets loaded are sufficient for subsequent ignition.

Switching on and startup stage

To light the boiler, press the button 'P4' for 3 seconds: the message 'START' will appear on the display.

This stage is automatic and managed entirely by the electronic controller without the possibility of changing the parameters.

Alternatively the boiler can be lit by pressing the buttons P4 and P5 together for 3 seconds. The message Awaiting Request appears on the display. With this mode the boiler switches to standby status and carries out the lighting-start stage only if a request for heat is recognised, e.g. to heat the water or for DHW (if available).

The boiler carries out the startup stages in sequence according to the following table:

Status	Devices			
	Igniter (or resistance)	Fume extr.	Auger	Automatic cleaner
OFF	OFF	OFF	OFF	OFF
START - PREHEAT	ON	ON	OFF	ON
PELLET PRELOAD	ON	ON	ON	OFF
AWAITING FLAME	ON	ON	OFF	OFF
PELLET LOADING	ON	ON	ON	OFF
FIRE PRESENT	OFF	ON	ON	OFF



Do not use flammable liquids to light the unit.

Failed ignition

If the system does not detect the ignition of the flame within the preset time, operation will be blocked with the "No ignition" alarm.

Before relighting the boiler, check that there are pellets in the hopper, that the door and ash drawer compartment are closed, that there are no obstructions to the combustion air inlet system. If the problem persists, it could be due to a technical problem (ignition plug, adjustments, etc ...), so please contact a Ravelli CAT.



È sufficiente resettare l'allarme e riaccendere la stufa: prima di caricare ulteriore pellet, la stufa cercherà di accendere l'eventuale pellet già presente nel braciere.



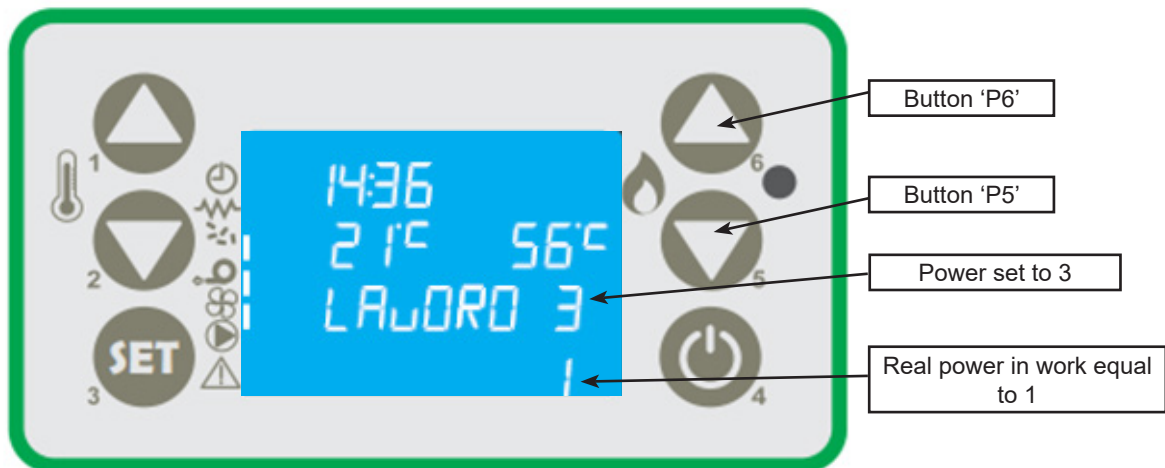
In case of persistent failed lighting, contact the Service Centre.

Work stage

After the 'STARTUP' stage, the boiler goes to the 'WORK' mode which is the normal operation mode.

Status	Devices			
	Igniter (or resistance)	Fume extr.	Auger	Automatic cleaner
WORK	OFF	ON	ON	OFF
WORK MODULATE	OFF	ON	ON	OFF
BRAZIER CLEANING	OFF	ON	ON	OFF

The user can adjust the heating power from the max. value of 5 to a min. of 1 with the buttons 'P5' and 'P6'.
DHW circuit function activation ON is displayed by the segment/LED [A].



! Make sure to check the pellet level in the hopper so that the flame does not go out due to lack of pellets.

! Make sure the unit is off when loading pellets.

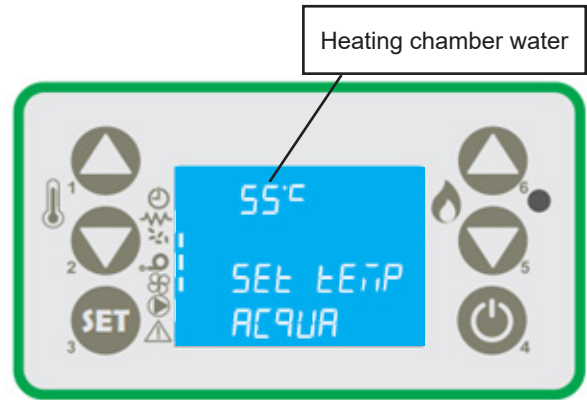
! The pellet hopper lid must always remain closed; it must only be opened when loading fuel.

! The bags of pellets must be kept at least 1.5 m from the boiler.

Modifying the water temperature setting

To modify the water temperature, press button P1 and then increase or decrease the temperature parameter with buttons P1 and P2.

When the water temperature has reached the set value, the power is automatically brought to the min. value, MODULATION status.



Cleaning the fire pot

During normal operation in work mode, the fire pot cleaning mode is activated at preset intervals and the display shows 'FIRE POT CLEANING'.

DHW with rapid heat exchanger

When hot water is required, the display shows the message DHW EXCH and the LED indicated by the tap lights up. The function is carried out only if the boiler is on, and the water inside the heating chamber has reached a sufficient temperature.

In the remaining cases the service is not provided.

DHW with storage tank (scheme 1 or 3)

This type of installation requires the use of an external thermostat or a water probe, which measures the DHW storage tank (puffer) temperature.

In the former case, temperature SETTING is obtained by adjusting the puffer thermostat controller.

In the latter case, to modify the temperature it is necessary to press button P2 on the control panel and then increase or decrease the temperature value with buttons P1 and P2.

The DHW function is activated when the temperature falls below the SET temperature. During the STANDBY phase, the boiler automatically lights and goes to WORK mode. Once the work temperature of the heating chamber water is reached, the supply of water to the storage tank (puffer) is activated. The boiler display shows the message DHW and the respective LED lights up.

When the SET temperature of the storage tank is satisfied, the BOILER activates the heating system. If there is no further demand, the boiler goes on STANDBY or to MODULATION, depending on the settings.

If the boiler is in OFF status, it does not light and does not provide the service.

System with puffer / heat accumulator (schema 2 or 3)

This type of installation requires the use of an external thermostat or a water probe, which measures the puffer water temperature.

In the former case, temperature SETTING is obtained by adjusting the puffer thermostat controller.

In the latter case, to modify the temperature it is necessary to press button P2 on the control panel and then increase or decrease the temperature value with buttons P1 and P2.

When the temperature drops below the SET external thermostat temperature:

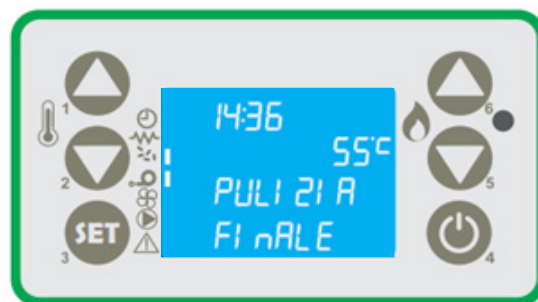
- Se la caldaia è nella fase di ATTESA RICHIESTA si accende automaticamente e una volta in modalità LAVORO porterà acqua calda al puffer fino al raggiungimento del SET ACQUA. When the puffer SET temperature is met, the boiler goes to AWAITING REQUEST (make sure to set the STANDBY function to ON).

- If the boiler is in OFF status, it does not turn on and does not provide the service.

It is possible to choose the temperature SETTING of the DHW storage tank and of heating from a min. of 54°C (STD pump start value) to a max. of 80°C. To avoid condensation inside the combustion chamber, the return temperature should be no lower than (50-55) °C.

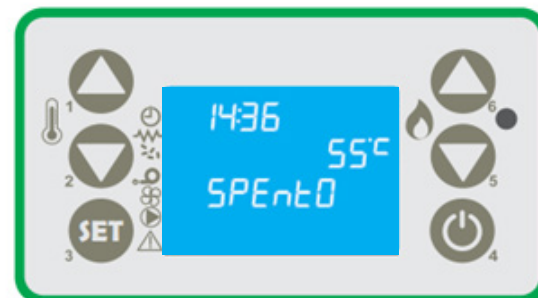
Shutting down

To shut down the boiler, press the button 'P4' for about 2 seconds. The auger is immediately stopped and the fume extractor is brought to high speed, making the message 'FINAL CLEANING' appear on the display.



At the end of the operation the message 'OFF' appears in the dialogue box. During the shutdown stage the boiler cannot be restarted until the flame temperature has fallen below a set value for a fixed time, with the message 'WAITING COOL' appearing in the dialogue box.

At the end of the operation, the message 'OFF' will appear in the dialog box.



Status	Devices			
	Igniter (o resistance)	Fume extr.	Auger	Automatic cleaner
FINAL CLEANING	OFF	ON	OFF	-
OFF	OFF	OFF	OFF	OFF

Menu

Press button 'P3' (SET) to access the menu; this is divided into various items and levels for accessing the settings of the electronic controller.

The following table summarises the menu structure with the selections available to the user.

Menu Item	Position Level 2°	Menu Item	Position Level 3°	Parameter Name	Unit
Menù 01 Set Crono	M1-1	Enable Chrono	M-1-1-01	Enable Chrono	On/Off
	M1-2	Day Program	M-1-2-01	Day Chrono	On/Off
			M-1-2-02	Start 1 Day	
			M-1-2-03	Stop 1 Day	
			M-1-2-04	Start 2 Day	
			M-1-2-05	Stop 2 Day	
	M1-3	Weekly Program	M-1-3-01	Week Chrono	On/Off
			M-1-3-02	Start Prog-1	
			M-1-3-03	Stop Prog-1	
			M-1-3-04	Monday Prog-1	
			M-1-3-05	Tuesday Prog-1	
			M-1-3-06	Wednesday Prog-1	
			M-1-3-07	Thursday Prog-1	
			M-1-3-08	Friday Prog-1	
			M-1-3-09	Saturday Prog-1	
			M-1-3-10	Sunday Prog-1	
			M-1-3-11	Start Prog-2	
M-1-3-12			Stop Prog-2		
M-1-3-13	Monday Prog-2				
M-1-3-14	Tuesday Prog-2				
M-1-3-15	Wednesday Prog-2				
M-1-3-16	Thursday Prog-2				
M-1-3-17	Friday Prog-2				

Menu Item	Position Level 2°	Menu Item	Position Level 3°	Parameter Name	Unit
Menù 01 Set Crono	M-1-3	Weekly Program	M-1-3-18	Saturday Prog-2	
			M-1-3-19	Sunday Prog-2	
			M-1-3-20	Start Prog-3	
			M-1-3-21	Stop Prog-3	
			M-1-3-22	Monday Prog-3	
			M-1-3-23	Tuesday Prog-3	
			M-1-3-24	Wednesday Prog-3	
			M-1-3-25	Thursday Prog-3	
			M-1-3-26	Friday Prog-3	
			M-1-3-27	Saturday Prog-3	
			M-1-3-28	Sunday Prog-3	
			M-1-3-29	Start Prog-4	
			M-1-3-30	Stop Prog-4	
			M-1-3-31	Monday Prog-4	
			M-1-3-32	Tuesday Prog-4	
			M-1-3-33	Wednesday Prog-4	
			M-1-3-34	Thursday Prog-4	
	M-1-3-35	Friday Prog-4			
	M-1-3-36	Saturday Prog-4			
	M-1-3-37	Sunday Prog-4			
M-1-4	Week-End Program	M-1-4-01	Week-End Crono	On/Off	
		M-1-4-02	Start 1 Week-End		
		M-1-4-03	Stop 1 Week-End		
		M-1-4-04	Start 2 Week-End		
		M-1-4-05	Stop 2 Week-End		
Menu 02 User adjustments	M-2-1	Set Clock		--	
	M-2-2	Stand-by mode		On/Off	
	M-2-3	Initial load		On	
	M-2-4	Pellet type	Pellet adjustment	0	
	M-2-5	Initial load auger 2		On	
Menu 03 User settings	M-3-1	Language		--	
	M-3-3	Buzzer mode		On/Off	
	M-3-4	Lighting		0 -- 100	
	M-3-6	Heating Delta		0,5 – 20 °C	
	M-3-7	Storage tank - Puffer Delta		0,5 – 20 °C	
	M-3-8	Pellet level		On/Off	
	M-3-9	DHW control		On/Off/EST	
Menu 04 Boiler status	Menu for technician				
Menu 05 Technician settings	Menu for technician				
Menu 06 Installer settings	Menu for technician				

To access the menus, proceed as follows:

- to access the menu from the "Home" screen, press the SET button P3.
- to scroll through the menu list use the P5 and P6 buttons and then confirm with SET to enter the submenus or use the P1 and P2 buttons to change the value.
- press the P3 button to confirm the set value and move on to the next item or to enter the submenus
- to return to the previous menu, press P4 (short press).

Menu 01 – Chrono setting

Allows all chronothermostat functions to be enabled/disabled; select ON to activate the function and display the relevant segment/LED [D]

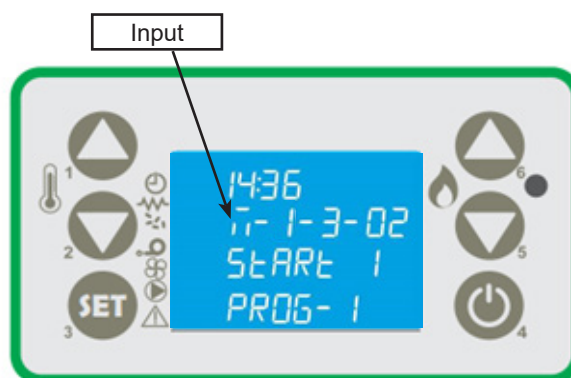
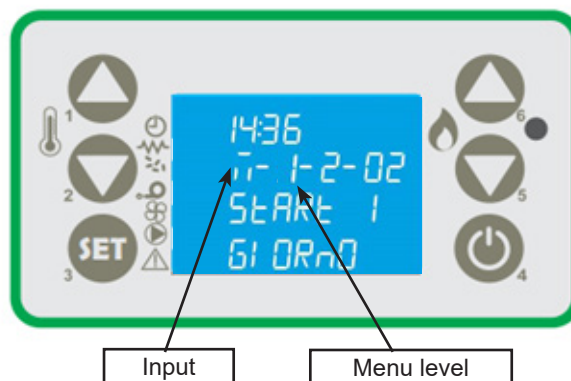
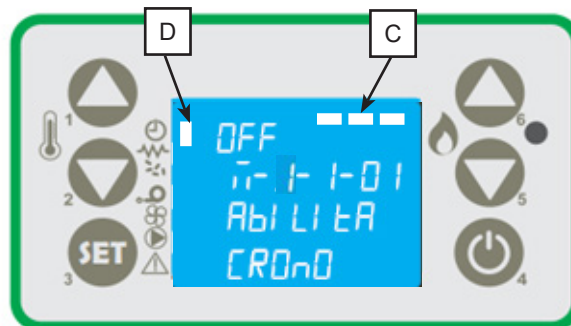
When Daily, Weekly or Week End programming is entered, the appropriate segment/LED [C] appears in the top right of the display.

Regarding selections and entering times, use the buttons: the 'P3' (SET) button allows you to enter the submenus, or if not present, to go to the next item; the 'P5' and 'P6' buttons allow you to navigate the submenus, the 'P1' and 'P2' buttons allow you to change the value and the 'P4' button allows you to go back.

By accessing the submenus DAY PROGRAM, the daily chronothermostat functions can be enabled/disabled and set.

It is possible to set two operation stages delimited by the times set according to the following table where the setting OFF tells the clock to ignore the command.

Selection	Meaning	Possible values
START 1	activation time	time - OFF
STOP 1	deactivation time	time - OFF
START 2	activation time	time - OFF
STOP 2	deactivation time	time - OFF



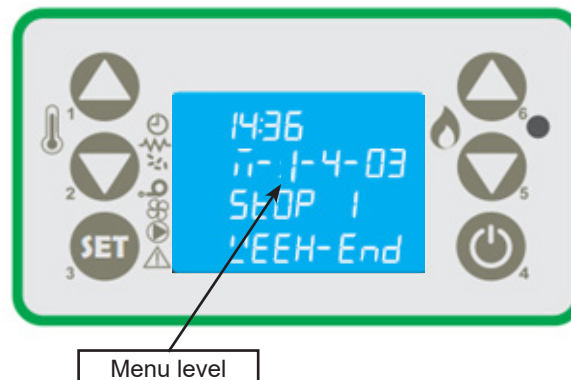
By accessing the submenu WEEK PROGRAM it is possible to enable/disable and set the weekly chronothermostat functions.

The weekly programmer has 4 independent programs whose final effect consists of a combination of the 4 programmings.



Carry out programming making sure not to overlap the hours of activation and/or deactivation on the same day in different programs.

By accessing the submenu WEEK-END PROGRAM it is possible to enable/disable and set the week-end (Saturday and Sunday) chronothermostat functions.



Activate WEEK-END programming only after deactivating the weekly programming. To avoid unwanted startup and shutdown operations, only activate one program at a time. Deactivate the daily program if the weekly program is required; with this setting it is advisable to deactivate the week-end program.

Menu 02 – User adjustments

With this menu it is possible to do a number of settings as follows

Set clock

Before operating with the boiler, it is necessary to set the current time and date so that there is a reference for possible chrono programming. The electronic controller has a lithium battery, model CR2032 3 Volt, che permette all'orologio interno di non azzerarsi anche togliendo l'alimentazione elettrica; with the boiler off, whenever the clock does not keep the time, or a series of zeros is displayed at restart, the battery must be replaced by calling an authorised service centre.

Standby mode

On activating this function, the boiler shuts down automatically after the water temperature has reached the set value ($T_{set} + \Delta T$) for a given time.

The next automatic relighting will be possible only when the temperature falls below the SET temperature by a few degrees and precisely ($T_{set} - \Delta T$) where ΔT default is 2°C.

Manual commands from the control panel have priority over programming.

With the selection OFF the boiler does not activate the STANDBY mode and functions normally activating the MODULATION function when the temperature exceeds the SET value.

Initial load

Setting this function allows activation of gearmotor operation, with the boiler off and cold, for pellet preloading of a pre-set time. It starts with button P1 and stops with button P4.

Pellet type

With the function on, press the buttons P1 or P2 to increase or reduce pellet loading to optimise consumption and combustion, depending on the type of pellets used.

Initial load auger 2

Setting this function allows activation of gearmotor operation relevant to the supplementary hopper for a fixed time. It starts with button P1 and stops with button P4.

Menu 03 – User setting

With this menu it is possible to carry out the following settings:

Language

With this selection it is possible to select the language from those available entered in the menu

Buzzer

With this selection it is possible to activate/deactivate boiler acoustic signalling.

Lighting

With this selection it is possible to change the brightness of the backlit display from a minimum of 0 to a maximum of 100.

Heating Delta

With this selection, it is possible to set:

the range between the SET temperature and the actual boiler shutdown temperature;

the range between the SET temperature and the actual boiler relighting temperature.

This range can be set from a min. of 0.5°C to a max. of 20°C depending on the customer's needs and/or the type of system.

Boiler/Puffer Delta

With this selection, it is possible to set:

the range between the SET temperature and the actual boiler relighting temperature.

This range goes from a min. of 0.5°C to a max. of 20°C depending on the customer's needs and/or the type of system.

Pellet level

With the selection set to ON, the no pellets signal can be managed with:

- a message on the panel 'NO PELLETS';

- management of a supplementary pellet hopper (available on request).

With the selection OFF, the possible supplementary hopper is disabled and no message appears on the panel.

DHW control

The selection ON allows to manage DHW from the storage tank or heat exchanger through the signal from the thermostat or flow switch.

The selection EST allows domestic hot water to be controlled in the summer (with heating off), via the signal from thermostat or probe. Selecting this item enables operation of just the DHW branch; standby is forced to ON and post-circulation follows that set in the menu M-6-9.

The summer function can be displayed only if the menu M-6-8 is set to T-PUFFER or S-PUFFER.

The post-circulation can be activated if the temperature measured is below 5°C (or similar). It activates the booster pump to prevent the water from freezing.

Menu 04 – Boiler status

With this selection it is possible to display the instantaneous boiler status giving the operating status of the various devices connected to it; various pages placed in succession are available for monitoring.

Menu 05 – Technician settings

This selection is reserved for the Aico SpA service centre authorised technician.

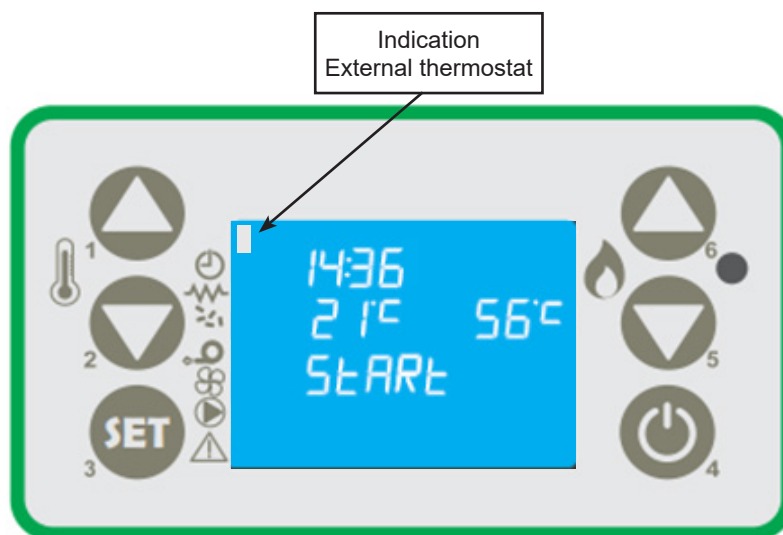


Modification of the technical parameters of menu 05 must be done by authorised and competent personnel; any changes made at random can cause serious damage for which Aico SpA declines any liability.

Termostato - external chronothermostat

To use an external thermostat, contact an authorised technician and for installation proceed as follows:

- turn off the power by the main switch on the back and unplug the power cable;
- remove the side panelling to access the electronic controller;
- referring to the wiring diagram, connect the two thermostat wires to the respective board TERM terminals and activate relative parameter;
- refit everything and check correct operation.



If an external thermostat-chronothermostat is used, it is advisable to deactivate the STANDBY mode and deactivate the control unit CHRONO programming.

All the menu functions do not change for each of the settings and signalling of the connection occurs with lighting up of the segment LED on the status bar of the display. Activation of the external thermostat-chronothermostat is signalled by lighting up of the status bar segment LED on the display.

If met, the thermostat shuts down the boiler, displaying the STANDBY function on the panel (if on).

Idle period (end of season)

If the boiler is not used for long periods, and/or at the end of each season, it is advisable to proceed as follows:

- completely remove the pellets from the tank;
- disconnect the power supply;
- clean thoroughly and, if necessary, have any damaged parts replaced by qualified personnel;
- protect the boiler from dust with suitable covering.

ALARM MANAGEMENT

Alarms are indicated by an acoustic signal (if activated) and a message on the control panel.

In case of an alarm, shut down the boiler, eliminate the cause and restart the boiler according to the normal procedure described in this manual.

Every alarm status causes immediate boiler shutdown.

The alarms, with causes and cures, which can appear on the control panel are listed below:

Alarms (table with reference codes)

SIGNAL	ANOMALY	POSSIBLE CAUSES	SOLUTION
AL 1 POWER FAILURE	No power during the lighting and operation stage.	Disconnection from the grid. Power failure in the grid. Failure of electrical and electronic components.	Turn the boiler OFF by pressing the button P4 and repeat the lighting procedure. Other reinstatement operations must be carried out by a service centre.
		Probe fault. The probe is disconnected from the board.	Reinstatement operations must be carried out by a service centre.
AL 2 FLAME PROBE	Occurs in case of a flame temperature probe fault.	Too many pellets. Reduced heat exchange in the system.	Adjust the pellet flow. Other reinstatement operations must be carried out by a service centre.
		The fume fan is blocked. Faulty speed control sensor. No power to fume fan.	Reinstatement operations must be carried out by a service centre.
AL 3 HOT FUMES	Occurs if the fume probe detects a fume temperature above the limit.	The pellet hopper is empty.	Check pellets in hopper.
		The heater is faulty, dirty or not correctly positioned. Pellet load setting incorrect.	Check the lighting procedures. Other reinstatement operations must be carried out by a service centre.
		The pellet hopper is empty. The pellet loading gearmotor has to adjust. The gearmotor does not load pellets.	Adjust the pellet flow Other reinstatement operations must be carried out by a service centre.
AL 4 FAN FAIL	Occurs when the fume extraction fan is faulty.	The safety thermostat has detected a temperature above the setting threshold due to overheating of the bottom part of the hopper blocking gearmotor operation.	Check the cause of excessive overheating. Reset the relevant safety thermostat by pressing the reset button.
		The combustion chamber is dirty. The fume duct is obstructed. The fire door is not closed. The overpressure valves are open-stuck. Faulty vacuum switch.	Check cleanliness of the fume duct and combustion chamber. Check hermetic closing of the door. Check closing of the overpressure valves. Other reinstatement operations must be carried out by a service centre.
AL 5 NO IGNITION	No flame in ignition stage.	The combustion chamber is dirty. The fume duct is obstructed. The fire door is not closed. The overpressure valves are open-stuck. Faulty air flow meter.	Check cleanliness of the fume duct and combustion chamber. Check hermetic closing of the door. Check closing of the overpressure valves. Other reinstatement operations must be carried out by a service centre.
		The pellet hopper is empty.	Check pellets in hopper.
		The pellet loading gearmotor has to adjust. The gearmotor does not load pellets.	Adjust the pellet flow Other reinstatement operations must be carried out by a service centre.
		The safety thermostat has detected a temperature above the setting threshold due to overheating of the bottom part of the hopper blocking gearmotor operation.	Check the cause of excessive overheating. Reset the relevant safety thermostat by pressing the reset button.
		The combustion chamber is dirty. The fume duct is obstructed. The fire door is not closed. The overpressure valves are open-stuck. Faulty vacuum switch.	Check cleanliness of the fume duct and combustion chamber. Check hermetic closing of the door. Check closing of the overpressure valves. Other reinstatement operations must be carried out by a service centre.
AL 6 NO PELLETS	Fire pot not fed with pellets.	The combustion chamber is dirty. The fume duct is obstructed. The fire door is not closed. The overpressure valves are open-stuck. Faulty air flow meter.	Check cleanliness of the fume duct and combustion chamber. Check hermetic closing of the door. Check closing of the overpressure valves. Other reinstatement operations must be carried out by a service centre.
		The pellet hopper is empty.	Check pellets in hopper.
		The pellet loading gearmotor has to adjust. The gearmotor does not load pellets.	Adjust the pellet flow Other reinstatement operations must be carried out by a service centre.
		The safety thermostat has detected a temperature above the setting threshold due to overheating of the bottom part of the hopper blocking gearmotor operation.	Check the cause of excessive overheating. Reset the relevant safety thermostat by pressing the reset button.
		The combustion chamber is dirty. The fume duct is obstructed. The fire door is not closed. The overpressure valves are open-stuck. Faulty vacuum switch.	Check cleanliness of the fume duct and combustion chamber. Check hermetic closing of the door. Check closing of the overpressure valves. Other reinstatement operations must be carried out by a service centre.
AL 7 THERMAL SAF	Occurs in case of cutting in of the auger duct temperature safety thermostat.	The combustion chamber is dirty. The fume duct is obstructed. The fire door is not closed. The overpressure valves are open-stuck. Faulty air flow meter.	Check cleanliness of the fume duct and combustion chamber. Check hermetic closing of the door. Check closing of the overpressure valves. Other reinstatement operations must be carried out by a service centre.
		The pellet hopper is empty.	Check pellets in hopper.
		The pellet loading gearmotor has to adjust. The gearmotor does not load pellets.	Adjust the pellet flow Other reinstatement operations must be carried out by a service centre.
		The safety thermostat has detected a temperature above the setting threshold due to overheating of the bottom part of the hopper blocking gearmotor operation.	Check the cause of excessive overheating. Reset the relevant safety thermostat by pressing the reset button.
		The combustion chamber is dirty. The fume duct is obstructed. The fire door is not closed. The overpressure valves are open-stuck. Faulty vacuum switch.	Check cleanliness of the fume duct and combustion chamber. Check hermetic closing of the door. Check closing of the overpressure valves. Other reinstatement operations must be carried out by a service centre.
AL 8 NO NEG PRESS	In the work stage the boiler detects a pressure below the vacuum switch setting threshold.	The combustion chamber is dirty. The fume duct is obstructed. The fire door is not closed. The overpressure valves are open-stuck. Faulty air flow meter.	Check cleanliness of the fume duct and combustion chamber. Check hermetic closing of the door. Check closing of the overpressure valves. Other reinstatement operations must be carried out by a service centre.
		The pellet hopper is empty.	Check pellets in hopper.
		The pellet loading gearmotor has to adjust. The gearmotor does not load pellets.	Adjust the pellet flow Other reinstatement operations must be carried out by a service centre.
		The safety thermostat has detected a temperature above the setting threshold due to overheating of the bottom part of the hopper blocking gearmotor operation.	Check the cause of excessive overheating. Reset the relevant safety thermostat by pressing the reset button.
		The combustion chamber is dirty. The fume duct is obstructed. The fire door is not closed. The overpressure valves are open-stuck. Faulty vacuum switch.	Check cleanliness of the fume duct and combustion chamber. Check hermetic closing of the door. Check closing of the overpressure valves. Other reinstatement operations must be carried out by a service centre.
AL 9 INSUFF DRAUGHT	Appears when the combustion air flow is below a certain threshold.	The combustion chamber is dirty. The fume duct is obstructed. The fire door is not closed. The overpressure valves are open-stuck. Faulty air flow meter.	Check cleanliness of the fume duct and combustion chamber. Check hermetic closing of the door. Check closing of the overpressure valves. Other reinstatement operations must be carried out by a service centre.
		The pellet hopper is empty.	Check pellets in hopper.
		The pellet loading gearmotor has to adjust. The gearmotor does not load pellets.	Adjust the pellet flow Other reinstatement operations must be carried out by a service centre.
		The safety thermostat has detected a temperature above the setting threshold due to overheating of the bottom part of the hopper blocking gearmotor operation.	Check the cause of excessive overheating. Reset the relevant safety thermostat by pressing the reset button.
		The combustion chamber is dirty. The fume duct is obstructed. The fire door is not closed. The overpressure valves are open-stuck. Faulty vacuum switch.	Check cleanliness of the fume duct and combustion chamber. Check hermetic closing of the door. Check closing of the overpressure valves. Other reinstatement operations must be carried out by a service centre.
ALA SAFETY H2O	Occurs in case of cutting in heating chamber water temperature safety thermostat.	The safety thermostat has detected a temperature above the setting threshold due to overheating of the heating chamber water blocking gearmotor operation.	Check the cause of excessive overheating. Reset the relevant safety thermostat by pressing the reset button.


SIGNAL	ANOMALY	POSSIBLE CAUSES	SOLUTION
AL B AUG TRIAC ERROR	Occurs when the gear- motor works continuously and for more than 60 sec.	The controller detects a faulty gearmo- tor control relay (contacts stuck).	Reinstatement operations must be carried out by a service centre.
AL C WATER PROBE S1	Occurs in case of water T detection probe fault, displaying T H2O = 0 °C.	Faulty probe	Reinstatement operations must be carried out by a service centre.
		The probe is disconnected from the board.	
AL D HOT WATER S1	Occurs when the water temperature has exceed- ed the fixed limits.	Occurs when the temperature probe in the heating chamber detects a value above 92°C.	Check the cause of the problem, restoring the temperature by bringing it to the normal operating value.
AL E WATER PRESSURE	Occurs when the water pressure does not come within the values for correct operation.	Occurs when the pressure transducer on the water circuit detects a pressure below or above the fixed limits.	Check the cause of the problem, re- storing the circuit pressure by bringing it to the normal operating value.
AL F WATER PROBE S2	Occurs in case of water T detection probe fault, displaying T H2O = 0 °C.	Faulty probe	Reinstatement operations must be carried out by a service centre.
		The probe is disconnected from the board.	
AL G HOT WATER S2	Occurs when the water temperature has exceed- ed the fixed limits.	Occurs when the temperature probe in the heating chamber detects a value above 92°C.	Check the cause of the problem, restoring the temperature by bringing it to the normal operating value.
AL H HOT ACQUA S3	Occurs in case of water T detection probe fault, displaying T H2O = 0 °C.	Occurs when the temperature probe in the heating chamber detects a value above 92°C.	Check the cause of the problem, restoring the temperature by bringing it to the normal operating value.
AL I WATER PROBE S3	Occurs in case of water T detection probe fault, displaying T H2O = 0 °C.	Faulty probe	Reinstatement operations must be carried out by a service centre.
		The probe is disconnected from the board.	
AL M DOOR OPEN	In the work stage the boiler detects a opening the fire door- ash door	The fire door and the ash door are not closed.	Check hermetic closing of the fire door or ash door.
		Defective switch.	Other reinstatement operations must be carried out by a service centre.
AL N CLEANER FAILURE	The cleaner did not complete the movement and is not in the correct position	Cleaner failure	Reset the alarm and wait for the boiler to switch to SHUTDOWN mode. Cut off and power again, the system reacti- vates the cleaner searching the correct position again.
			If the problem persists, contact the Support Service

Various signals


SIGNAL	ANOMALY	POSSIBLE CAUSES	SOLUTION
AWAITING COOL	Occurs on relighting the boiler immediately after having shut it down.	Reset attempt in shutdown stage with boiler hot in cooling stage.	Alarm reset is possible only after shut-down.
AIRFLOW METER FAILURE	Occurs when the air flow meter is disconnected.	The controller does not detect the amount of combustion air and does not shut down the boiler; it only excludes the air flow meter functions.	Reinstatement operations must be carried out by a service centre.
FROST RISK	Occurs when the water temperature falls below a certain value.	The boiler controller detects the water temperature below 6°C and displays a message.	The pump starts in order to move the water inside the heating circuit. Monitor the water temperature so that it does not fall below 0°C.
SERVICE DUE	Occurs when the boiler has exceeded 1800 hours of operation or 2000 Kg pellet since the previous servicing.	Extraordinary maintenance notice.	Cleaning - extraordinary maintenance and reinstatement operations must be carried out by an authorised service centre.
MODULA F	The flue gas or flame temperature has exceeded the maximum set value.	Too many pellets. Reduced heat exchange in the system.	Adjust the pellet flow. Other reinstatement operations must be carried out by a service centre.


MAINTENANCE

Safety warnings for maintenance

 Maintenance of the boiler must be performed at least once a year and should be planned in advance with the Technical Assistance Service.


 Dispose of cleaning waste in accordance with the current local regulations

 In some conditions, such as turning the boiler on and off or inappropriate use, the combustion products can contain small soot particles that build up in the smoke evacuation system. This can reduce the cross-section of the smoke duct and pose a fire risk. The smoke evacuation system must be inspected and cleaned at least once a year.


 The maintenance operations must be carried out when the boiler is cold and with the electrical power supply disconnected.

Before completing any maintenance operation, adopt the following precautions:

- Make sure that all boiler parts are cold.
- Make sure that the ashes are completely cold.
- Always operate with equipment that is appropriate for maintenance.
- When maintenance is finished, re-install all of the dis-assembled parts before restarting operation.

 The quality of the pellet, the boiler operating mode and combustion control can affect maintenance activity frequency.


Cleaning

 Perform the cleaning operations so as to guarantee correct boiler operation.

Boiler cleaning is very important to prevent: poor combustion, deposits of ash and unburnt products in the brazier, reduced thermal efficiency.

The table below lists the necessary cleaning operations required for correct stove operation.

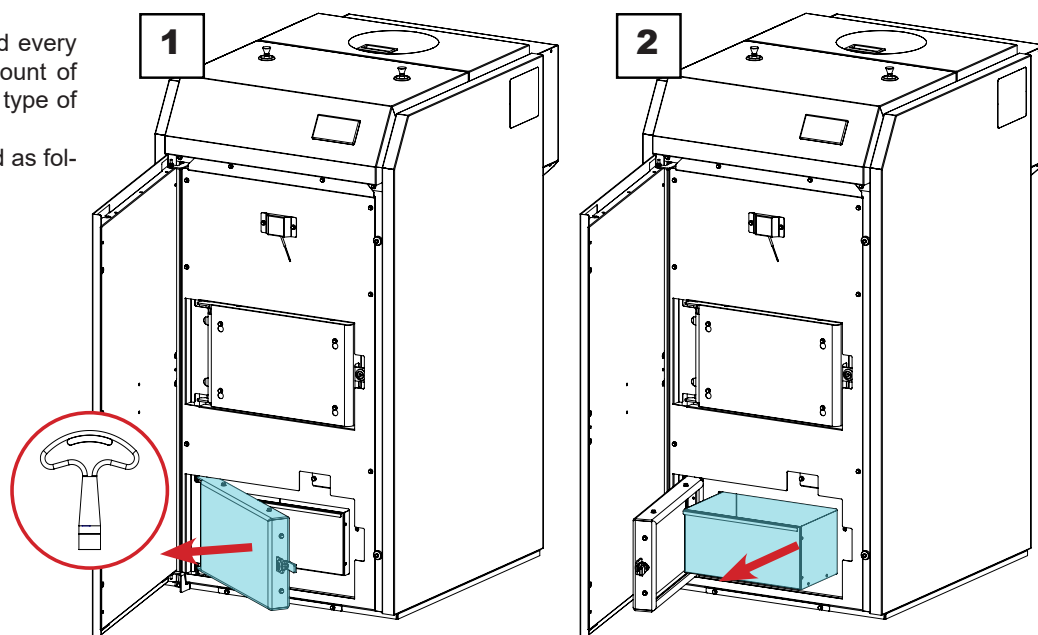
PARTS / FREQUENCY	2-3 DAYS	30 DAYS	60/90 DAYS
Ash drawer		•	
Glass	•		
Turbulators	•		
Combustion chamber		•	
Pellet tank		•	
Extraction duct			•

 It is recommended in the early periods of use of the boiler, or of a new type of pellet, to carry out cleaning operations frequently, so as to be able to assess the exact frequency of intervention.

Cleaning the ash drawer

The ash drawer must be cleaned every 30 days, (depending on the amount of time the boiler is used and what type of pellet is used).

To clean the ash drawer, proceed as follows.



Glass cleaning

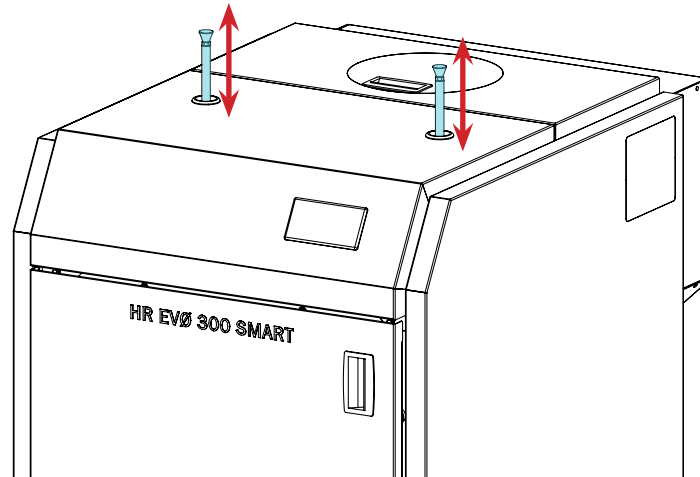
With a cold boiler, clean the glass with a cloth and glass cleaner.

Note: there are stove glass cleaning products available on the market.

Cleaning the turbulators

During operation, dust and soot are deposited on the surface of the heat exchanger tubes. To ensure smooth operation throughout the season, it is advisable to periodically clean the heat exchanger when the boiler is cold. Extract the scraper rod and firmly move the scraper back and forth.

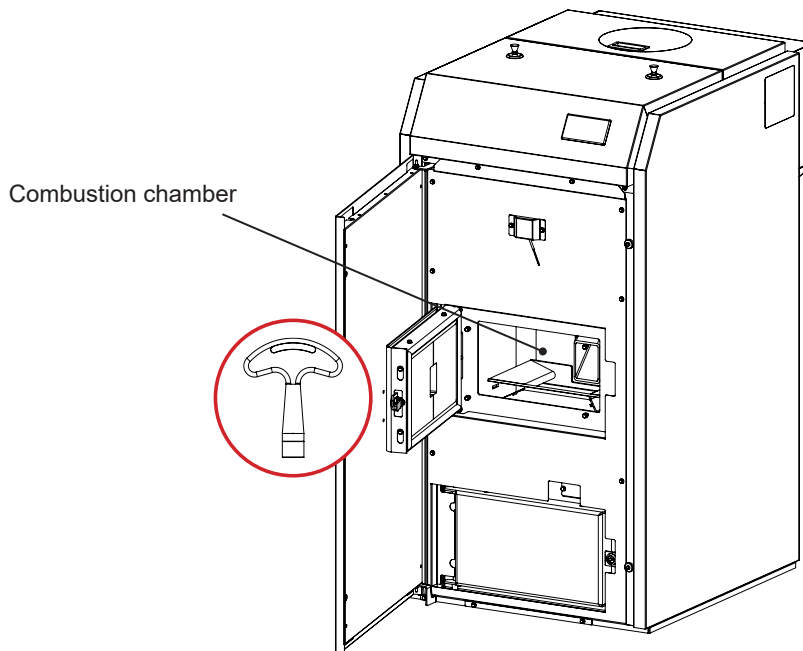
Once you have finished cleaning the exchanger, push the scraper inside the grill (never leave it removed).



Combustion chamber cleaning

To clean the ash drawer, proceed as follows:

step	action
1	Vacuum the combustion chamber every day using a bin ash vacuum, making sure that the ashes are completely cold.



Cleaning the pellet tank

To clean the pellet tank, proceed as follows:

step	action
1	Periodically remove the wood sawdust accumulated on the bottom of the tank, using a vacuum cleaner.

Extraction duct cleaning

Periodically check that the extraction duct is free from obstructions (dust, animal hair ...) and remove them if necessary.



It is necessary to be extremely careful not to break the air flow sensor.

Extraordinary maintenance



- ! Maintenance operations must be carried out with the boiler cold and with the power supply disconnected.
- ! Extraordinary maintenance activities must be carried out by staff from the Authorised Assistance Centre.
- ! Do not wait for components to be deteriorated by use before proceeding with their replacement. Replace a worn component before it is completely broken to prevent any damage caused by sudden component breakage.

PARTS / FREQUENCY	1 SEASON
Deep combustion chamber cleaning	•
Door gasket	•
Chimney	•
Smoke conduit	•

The need for scheduled cleaning is indicated by the message "SERVICE DUE".

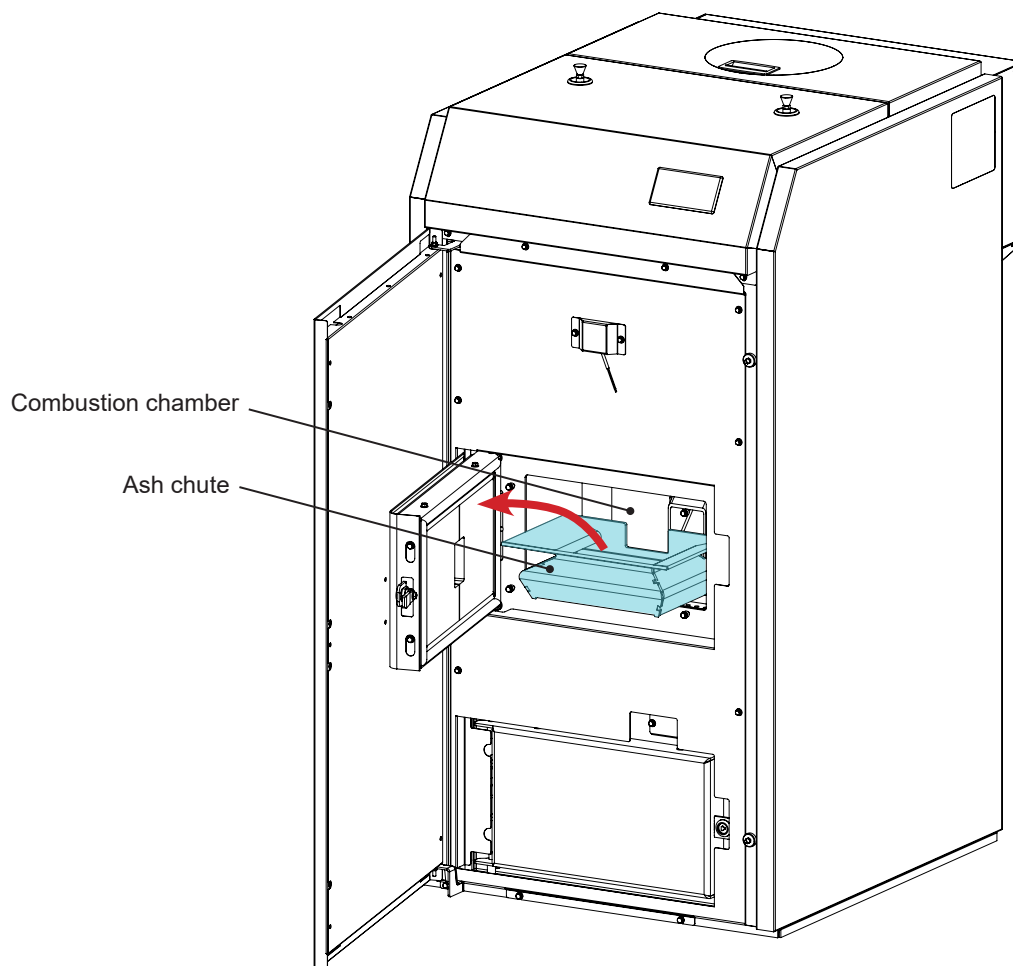
Schedule the above extraordinary maintenance activities with the Authorised Assistance Centre.

Deep combustion chamber cleaning

-  This operation must be carried out by a Ravelli Assistance Centre.
-  Schedule this type of cleaning with the Ravelli Assistance Centre.

To clean the combustion chamber, proceed as described below:

After cleaning the combustion chamber, it is advisable to proceed with the cleaning of the inspection hatches as indicated in the paragraph "Smoke duct cleaning".



Checking the seals



This operation must be carried out by a Ravelli Service Centre. Plan this type of cleaning with the Ravelli Service Centre.

When thoroughly cleaning the boiler, the authorised technician must check that the gaskets of
 - port
 - hatches
 are intact. If not, they will have to be replaced.

Smoke conduit cleaning

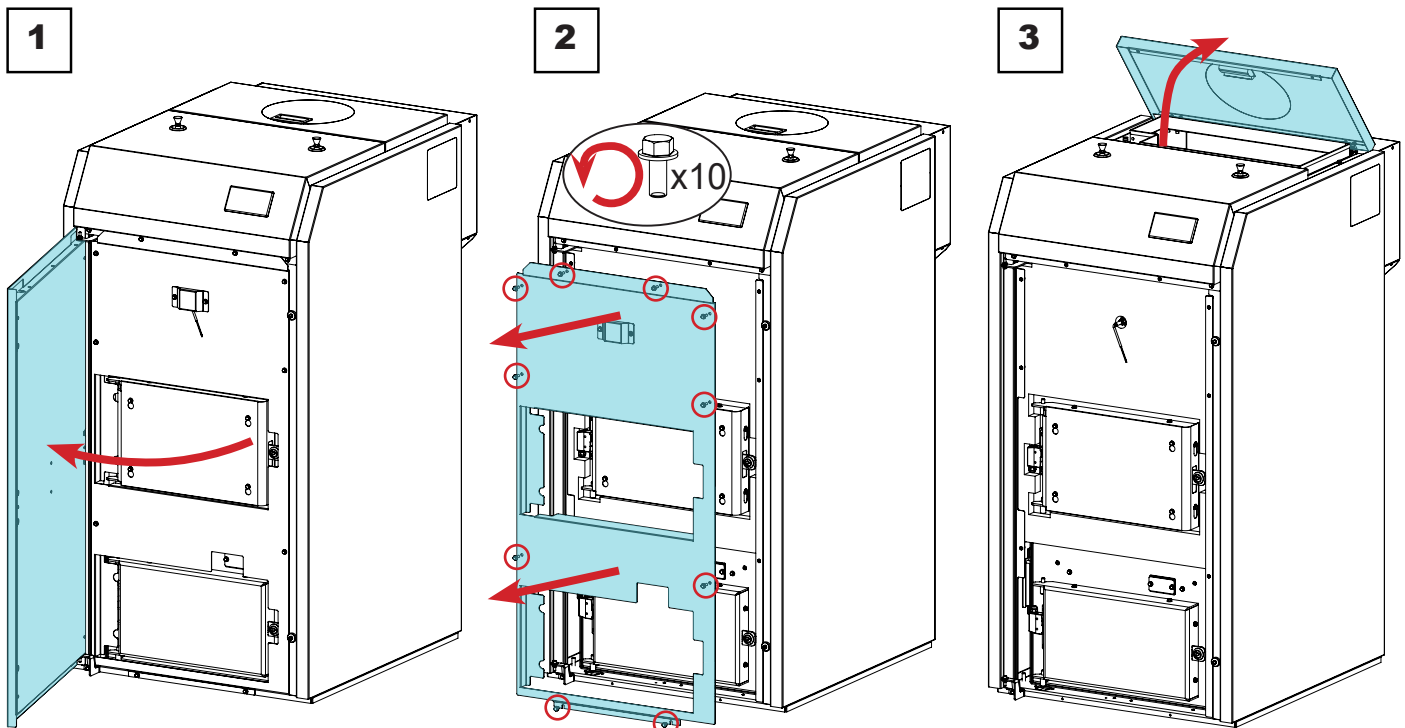


This operation must be carried out by a Ravelli Assistance Centre. Schedule this type of cleaning with the Ravelli Assistance Centre.

The boiler is equipped with some hatches for cleaning the internal smoke ducts.
 To clean the smoke ducts, proceed as described below:

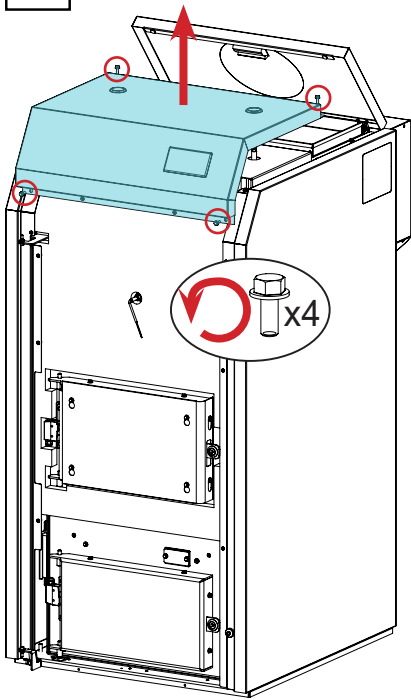
step	action
1	Open the hatches.
2	Clean the ashes, eventually use a brush or similar and reassemble everything. Note: the hatches are equipped with gaskets, therefore, before reassembling them, make sure that the gaskets are not worn.

Note: The operation must be carried out when the boiler is cold, using an ash vacuum cleaner.

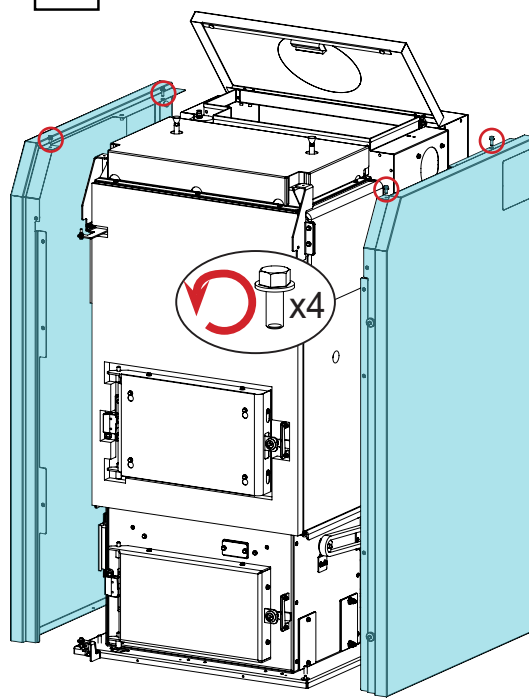


If necessary, the door can be removed

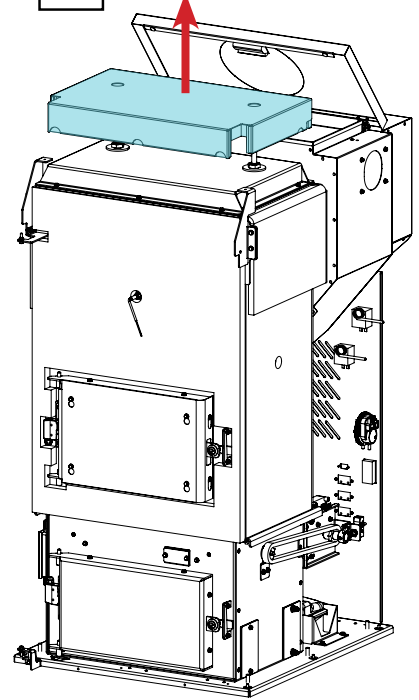
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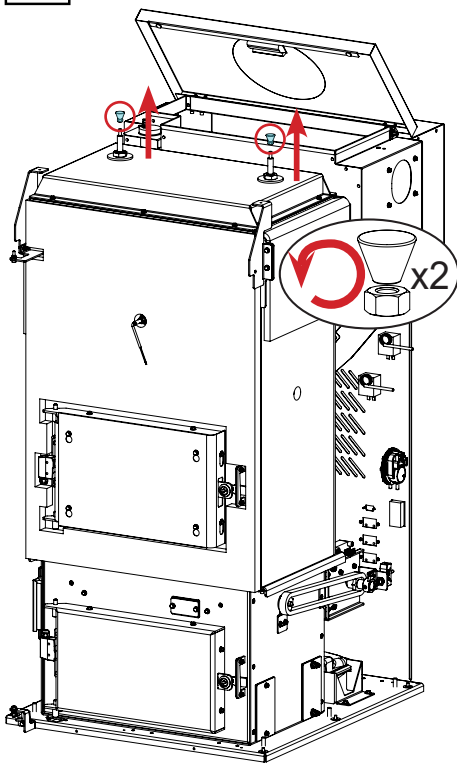
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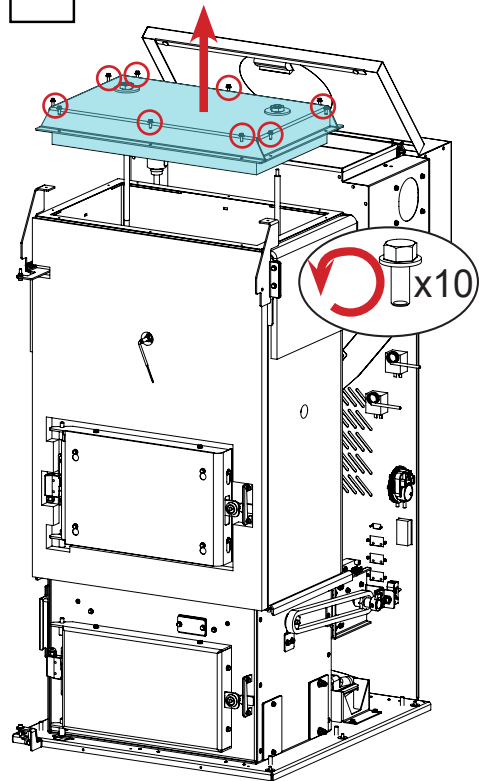
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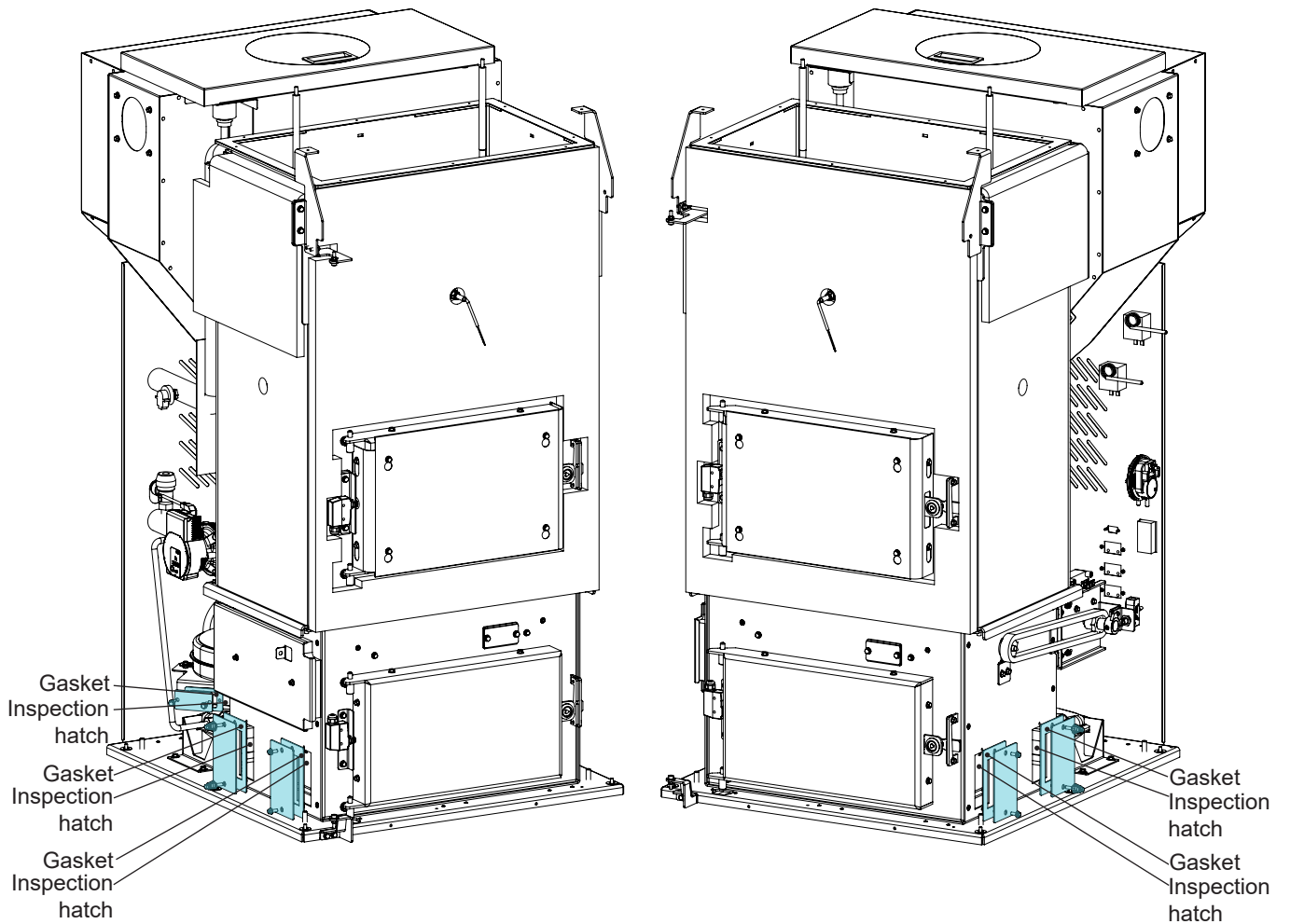
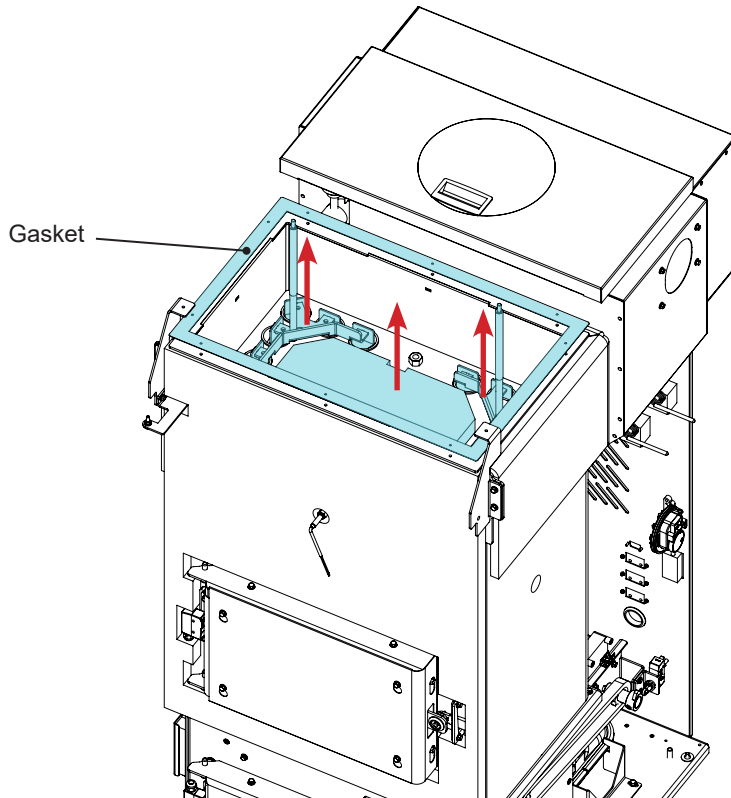


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STORAGE AND DISPOSAL

Disposal

Demolition and disposal of the appliance is under the exclusive liability and responsibility of the owner who must do so in accordance with the laws in force in the country of installation pertaining to safety, respect and protection of the environment.

At the end of its service life, the product must not be disposed of as household waste. It can be taken to designated separate waste collection centres run by local administrations or to dealers who offer this service.

Disposing of the product as sorted waste avoids any negative consequences on the environment and health deriving from unsuitable disposal and it recovers the materials that the stove is composed of in order to save considerable energy and resources.

TROUBLESHOOTING

The appliance does not work

- Closely follow the directions in the dedicated chapter of this manual;
- make sure that the air intake duct is not obstructed;
- make sure that the smoke evacuation system is clean and not obstructed;
- make sure the chimney is sized for the appliance power;
- make sure that the air intake in the room is clear of any obstructions and that there are no other combustion appliances or extraction hoods that create a vacuum in the room;

Difficult lighting

- Closely follow the directions in the dedicated chapter of this manual;
- make sure that the air intake duct is not obstructed;
- make sure that the smoke evacuation system is clean and not obstructed;
- make sure the chimney is sized for the appliance power;
- make sure that the air intake in the room is clear of any obstructions and that there are no other combustion appliances or extraction hoods creating a vacuum in the room.

Smoke leakage

- Check the draught of the chimney;
- check whether the seals on the door, drawer and smoke evacuation system are intact;
- make sure there is no ash obstructing the primary air flow grille.

The glass gets dirty easily

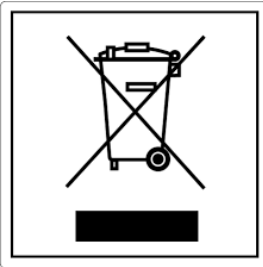
- Only use recommended fuels;
- check the draught of the chimney.

Downtime (end of season)

At the end of every season we recommend vacuuming out any ash and dust that may still be inside. It is advisable to let the pellets burn out in the tank so that the pellet remains and sawdust can be vacuumed from the bottom and from the screw.

Disconnect the appliance from the power supply.

With thermo-stove or boiler, it is not necessary to empty it of water, but it is advisable to close the shut-off valves at the inlet and outlet for prolonged downtime.



ITA-Informationi per la gestione di rifiuti di apparecchiature elettriche ed elettroniche contenenti pile e accumulatori

Questo simbolo che appare sul prodotto, sulle pile, sugli accumulatori oppure sulla loro confezione o sulla loro documentazione, indica che il prodotto e le pile o gli accumulatori inclusi al termine del ciclo di vita utile non devono essere raccolti, recuperati o smaltiti assieme ai rifiuti domestici.

Una gestione impropria dei rifiuti di apparecchiature elettriche ed elettroniche, di pile o accumulatori può causare il rilascio di sostanze pericolose contenute nei prodotti. Allo scopo di evitare eventuali danni all'ambiente o alla salute, si invita l'utilizzatore a separare questa apparecchiatura, e/o le pile o accumulatori inclusi, da altri tipi di rifiuti e di consegnarla al centro comunale di raccolta. È possibile richiedere al distributore il ritiro del rifiuto di apparecchiatura elettrica ed elettronica alle condizioni e secondo le modalità previste dal D.Lgs. 49/2014.

La raccolta separata e il corretto trattamento delle apparecchiature elettriche ed elettroniche, delle pile e degli accumulatori favoriscono la conservazione delle risorse naturali, il rispetto dell'ambiente e assicurano la tutela

della salute.

Per ulteriori informazioni sui centri di raccolta dei rifiuti di apparecchiature elettriche ed elettroniche, di pile e accumulatori è necessario rivolgersi alle Autorità pubbliche competenti al rilascio delle autorizzazioni.

ENG-Information for management of electric and electronic appliance waste containing batteries or accumulators

This symbol, which is used on the product, batteries, accumulators or on the packaging or documents, means that at the end of its useful life, this product, the batteries and the accumulators included must not be collected, recycled or disposed of together with domestic waste.

Improper management of electric or electronic waste or batteries or accumulators can lead to the leakage of hazardous substances contained in the product. For the purpose of preventing damage to health or the environment, users are kindly asked to separate this equipment and/or batteries or accumulators included from other types of waste and to arrange for disposal by the municipal waste service. It is possible to ask your local dealer to collect the waste electric or electronic appliance under the conditions and following the methods provided by national laws transposing the Directive 2012/19/EU.

Separate waste collection and recycling of unused electric and electronic equipment, batteries and accumulators helps to save natural resources and to guarantee that this waste is processed in a manner that is safe for health and the environment.

For more information about how to collect electric and electronic equipment and appliances, batteries and accumulators, please contact your local Council or Public Authority competent to issue the relevant permits.

FRA-Informations relatives à la gestion des déchets d'appareils électriques et électroniques contenant des piles et des accumulateurs

Ce symbole présent sur le produit, sur les piles, sur les accumulateurs, sur l'emballage ou sur la documentation de référence, indique que le produit et les piles ou les accumulateurs ne doivent pas être collectés, récupérés ou éliminés avec les déchets domestiques au terme de leur vie utile.

Une gestion improprie des déchets d'équipements électriques et électroniques, des piles ou des accumulateurs peut causer la libération de substances dangereuses contenues dans les produits. Pour éviter d'éventuelles atteintes à l'environnement ou à la santé, on invite l'utilisateur à séparer cet appareil, et / ou les piles ou les accumulateurs, des autres types de déchets et de le confier au service municipal de collecte. On peut demander au distributeur de prélever le déchet d'appareil électrique ou électronique aux conditions et suivant les modalités prévues par les normes nationales de transposition de la Directive 2012/19/UE.

La collecte sélective et le traitement correct des appareils électriques et électroniques, des piles et des accumulateurs, favorisent la conservation des ressources naturelles, le respect de l'environnement et assurent la protection de la santé.

Pour tout renseignement complémentaire sur les modalités de collecte des déchets d'appareils électriques et électroniques, des piles et des accumulateurs, il faut s'adresser aux Communes ou aux Autorités publiques compétentes pour la délivrance des autorisations.

NLD-Informatie voor het beheer van afgedankte elektrische en elektronische apparatuur die batterijen en accu's bevat

Dit symbool, dat op het product, op batterijen, op accu's, op de verpakking of in de documentatie ervan staat, geeft aan dat het product en de batterijen of accu's aan het einde van de gebruiksduur niet samen met het huishoudelijke afval mogen worden ingezameld of verwijderd.

Een onjuist beheer van afgedankte elektrische en elektronische apparatuur, batterijen of accu's kan leiden tot het vrijkomen van gevaarlijke stoffen in de producten. Om schade aan het milieu of aan de gezondheid te voorkomen, wordt de gebruiker aangemoedigd om deze apparatuur en/of de meegeleverde batterijen of accu's van andere soorten afval te scheiden en af te leveren aan de gemeentelijke ophaaldienst. Het is mogelijk om de distributeur te vragen om de afvalinzameling van elektrische en elektronische apparatuur uit te voeren volgens de voorwaarden en de voorschriften die zijn vastgelegd in de nationale bepalingen ter uitvoering van Richtlijn 2012/19/EU.

De gescheiden inzameling en correcte behandeling van elektrische en elektronische apparatuur, batterijen en accu's bevorderen het behoud van natuurlijke hulpbronnen, respect voor het milieu en zorgen voor de bescherming van de gezondheid.

Voor meer informatie over de inzameling van afgedankte elektrische en elektronische apparatuur, batterijen en accu's is het noodzakelijk om contact op te nemen met de gemeenten of de bevoegde overheidsinstanties.

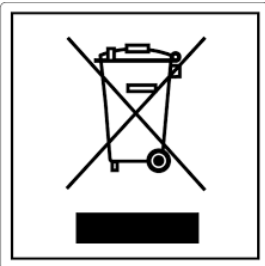
DEU-Informationen für die Entsorgung von elektrischen und elektronischen Altgeräten, die Batterien und Akkus enthalten

Dieses Symbol auf dem Produkt, auf den Batterien, auf den Akkus, auf deren Verpackung oder in deren Unterlagen weist darauf hin, dass das Produkt und die Batterien oder Akkus am Ende ihrer Lebensdauer nicht zusammen mit dem normalen Hausmüll gesammelt, verwertet oder entsorgt werden dürfen.

Eine unsachgemäße Entsorgung von elektrischen und elektronischen Altgeräten, sowie von Batterien oder Akkus kann zur Freisetzung gefährlicher Stoffe im Produkt führen. Um mögliche Umwelt- oder Gesundheitsschäden zu vermeiden, wird der Benutzer aufgefordert, dieses Gerät bzw. die Batterien oder Akkus von anderen Abfallarten zu trennen und der kommunalen Sammelstelle zu übergeben. Außerdem ist es möglich, den Händler um die Rücknahme der elektrischen und elektronischen Altgeräte unter den in den nationalen Vorschriften zur Umsetzung der Richtlinie 2012/19/EU vorgesehenen Bedingungen zu bitten.

Die getrennte Sammlung und die ordnungsgemäße Verwertung von elektrischen und elektronischen Altgeräten, Batterien und Akkus fördert die Erhaltung der natürlichen Ressourcen, respektiert die Umwelt und gewährleistet den Schutz der Gesundheit.

Für weitere Informationen zur Sammlung von elektrischen und elektronischen Altgeräten, Batterien und Akkus wenden Sie sich bitte an die für die Erteilung von Genehmigungen zuständigen Kommunen oder Behörden.



ESP-Información para la gestión de residuos de aparatos eléctricos y electrónicos con pilas y acumuladores

Este símbolo que aparece en el producto, en las pilas, los acumuladores o en su embalaje o su documentación indica que el producto y las pilas o acumuladores que contiene, al final de su vida útil, no deben recogerse, recuperarse o desecharse junto con los residuos domésticos.

Una gestión inadecuada de los residuos de aparatos eléctricos y electrónicos, pilas o acumuladores podría provocar la liberación de sustancias peligrosas contenidas en los productos. Para evitar posibles daños para el medio ambiente o la salud, se recomienda al usuario que separe este aparato y/o las pilas o acumuladores que contiene de otros tipos de residuos y lo entregue al servicio municipal encargado de la recogida. Se puede solicitar al distribuidor la recogida de los residuos de aparatos eléctricos y electrónicos en las condiciones y de acuerdo con las modalidades establecidas por las normas nacionales de transposición de la Directiva 2012/19/UE.

La recogida diferenciada y el tratamiento correcto de los aparatos eléctricos y electrónicos, de las pilas y los acumuladores favorecen la conservación de los recursos naturales, el respeto del medio ambiente y garantizan la protección de la salud.

Para obtener más información sobre las modalidades de recogida de los residuos de aparatos eléctricos y electrónicos, de las pilas y los acumuladores es necesario acudir a los ayuntamientos o las autoridades públicas competentes para la concesión de autorizaciones.

PRT-Informações sobre a gestão dos resíduos de equipamentos elétricos e eletrônicos contendo pilhas e acumuladores

Este símbolo no produto, pilhas, acumuladores ou respetiva embalagem ou documentação indica que, no final do seu ciclo de vida útil, o produto e os acumuladores incluídos não devem ser recolhidos, recuperados nem eliminados conjuntamente com o lixo doméstico.

Uma gestão imprópria dos resíduos de equipamentos elétricos e eletrônicos, pilhas ou acumuladores pode causar a libertação de substâncias perigosas contidas nos produtos. A fim de evitar eventuais danos para o ambiente ou para a saúde, o utilizador é convidado a separar este equipamento e/ou pilhas ou acumuladores incluídos de outros tipos de resíduos e a depositá-los no serviço municipal de recolha de lixo. É possível requisitar a recolha dos resíduos de equipamentos elétricos e eletrônicos pelo distribuidor segundo as condições e modalidades previstas pelas normas nacionais de transposição da diretiva 2012/19/UE.

A recolha separada e o correto tratamento dos equipamentos elétricos e eletrônicos e respetivas pilhas e acumuladores favorecem a conservação dos recursos naturais, o respeito do ambiente e a proteção da saúde.

Para mais informações sobre as modalidades de recolha dos resíduos de equipamentos elétricos e eletrônicos, pilhas e acumuladores, dirija-se à sua Câmara Municipal ou à autoridade pública competente para a emissão das autorizações.

GRC-Πληροφορίες για τη διαχείριση αποβλήτων ηλεκτρικού και ηλεκτρονικού εξοπλισμού, μπαταριών και συσσωρευτών

Αυτό το σύμβολο που εμφανίζεται στο προϊόν, στις μπαταρίες, στους συσσωρευτές στη συσκευασία ή στα έγγραφα υποδεικνύει ότι το προϊόν στο τέλος της ωφέλιμης ζωής του δεν πρέπει να συλλέγεται, να ανασύρεται ή να απορρίπτεται με τα οικιακά απορρίμματα.

Ο ακατάλληλος χειρισμός των αποβλήτων ηλεκτρικού και ηλεκτρονικού εξοπλισμού, μπαταριών ή συσσωρευτών μπορεί να οδηγήσει στην απελευθέρωση επικίνδυνων ουσιών που περιέχονται στο προϊόν. Προκειμένου να αποφευχθεί τυχόν μόλυνση στο περιβάλλον ή ασθένεια, ο χρήστης ενθαρρύνεται να διαχωρίσει αυτόν τον εξοπλισμό ή/και τις μπαταρίες ή τους συσσωρευτές που περιλαμβάνονται από άλλα είδη αποβλήτων και να το παραδώσει στην υπηρεσία δημοτικών συλλογών. Είναι δυνατόν να ζητηθεί από τον διανομέα η συλλογή αποβλήτων ηλεκτρικού και ηλεκτρονικού εξοπλισμού που πρέπει να πραγματοποιηθεί σύμφωνα με τους όρους και με τις διαδικασίες που θεσπίζονται από τις εθνικές διατάξεις εφαρμογής της οδηγίας 2012/19/ΕΕ.

Η χωριστή συλλογή και η σωστή επεξεργασία ηλεκτρικού και ηλεκτρονικού εξοπλισμού, μπαταριών και συσσωρευτών ευνοούν τη διατήρηση των φυσικών πόρων, τον σεβασμό για το περιβάλλον και την προστασία της υγείας.

Για περισσότερες πληροφορίες σχετικά με τον τρόπο συλλογής των αποβλήτων ηλεκτρικού και ηλεκτρονικού εξοπλισμού, μπαταριών και συσσωρευτών είναι απαραίτητο να επικοινωνήσετε με τους δήμους ή τις δημόσιες αρχές που είναι αρμόδιες για την έκδοση των αδειών.

DNK-Informationer til behandling af affald fra elektriske og elektroniske udstyr der indeholder batterier og akkumulatorer

Dette symbol, der vises på produktet, på batterierne eller på akkumulatorerne, på indpakningen eller i dokumentationen, angiver at selve produkt, når dets levetid er opbrugt, ikke skal opsamles, genvindes eller bortskaffes sammen med normalt husholdningsaffald.

En ukorrekt behandling af affald fra elektriske eller elektroniske udstyr, af batterier og akkumulatorer, risikerer at udlede farlige stoffer indeholdt i produktet. For at forebygge ventuelle skader for miljøet eller sundheden, bedes brugeren om at behandle dette udstyr, og/eller de medfølgende batterier eller akkumulatorerne separat fra andre affaldstyper, og at levere det til det kommunale opsamlingscenter, eller at anmode leverandøren om opsamling, i henhold til forskrifterne, der er angivet i de nationale forordninger til gennemførelse af Direktivet 2012/19/EF.

Den separate opsamling og genvinding af de nedslidte elektriske og elektroniske udstyr, af batterierne og af akkumulatorerne, fremmer bevarelsen af de naturlige ressourcer, og sikrer at dette affald behandles ved at tage hensyn til miljøets og sundhedens varetagelse.

Til yderligere informationer angående opsamling af affald fra elektriske og elektroniske udstyr, af batterier og akkumulatorer, er det nødvendigt at rette henvendelse til Kommunerne eller til de ansvarlige myndigheder til udstedelse af bemyndigelserne.

POL-Informacje dotyczące zarządzania odpadami sprzętu elektrycznego i elektronicznego zawierającego baterie i akumulatory

Niniejszy symbol znajdujący się na produkcie, bateriach, akumulatorach, na ich opakowaniu lub na dokumentacji, wskazuje, że produkt, baterie lub akumulatory po zakończeniu okresu użytkowania nie mogą być zbierane, odzyskiwane lub utylizowane wraz z odpadami komunalnymi.

Niewłaściwe postępowanie ze użytym sprzętem elektrycznym i elektronicznym, bateriami lub akumulatorami może powodować uwolnienie niebezpiecznych substancji zawartych w produktach. Celem uniknięcia jakichkolwiek szkód dla środowiska lub zdrowia, użytkownik proszony jest o odseparowanie niniejszego sprzętu i/lub dołączonych baterii lub akumulatorów od innych rodzajów odpadów i dostarczenia go do miejskiego punktu zbierania odpadów. Możliwe jest zwrócenie się z prośbą do dystrybutora o odebranie odpadów sprzętu elektrycznego i elektronicznego, na warunkach i zgodnie z procedurami ustanowionymi przez przepisy krajowe transponujące dyrektywę 2012/19/UE.

Oddzielna zbiórka i prawidłowe przetwarzanie sprzętu elektrycznego i elektronicznego, baterii i akumulatorów sprzyja ochronie zasobów naturalnych, poszanowaniu środowiska i zapewnieniu ochrony zdrowia.

Aby uzyskać więcej informacji dotyczących zbiórki użytego sprzętu elektrycznego i elektronicznego, baterii i akumulatorów, należy skontaktować się z władzami miejskimi lub organami publicznymi odpowiedzialnymi za wydawanie zezwoleń.

SVN-Informacije o ravnanju z odpadno električno in elektronsko opremo, ki vsebuje baterije in akumulatorje

Ta simbol, ki se nahaja na izdelku, baterijah, akumulatorjih ali na njihovi embalaži ali v dokumentaciji, označuje, da se po izteku življenjske dobe izdelka ter baterij ali akumulatorjev, ki jih izdelek vsebuje, ne sme zbirati, predelati ali odstranjevati skupaj z odpadki iz gospodinjstev.

Neprimerno ravnanje z odpadno električno in elektronsko opremo, baterijami ali akumulatorji lahko povzroči izpust nevarnih snovi, ki jih vsebujejo izdelki. Da bi preprečili morebitne škodljive vplive na okolje ali zdravje, uporabnike pozivamo, da tovrstno opremo in/ali baterije ali akumulatorje, ki jih oprema vsebuje, ločujejo od drugih vrst odpadkov ter jih oddajo občinski službi za zbiranje odpadkov. Od distributerja lahko zahtevate prevzem odpadne električne in elektronske opreme pod pogoji in na načine, skladno s katerimi je bila Direktiva 2012/19/EU prenesena v nacionalno zakonodajo.

Ločevanje in ustrezna obdelava električnih in elektronskih naprav, baterij in akumulatorjev pripomoreta k ohranjanju naravnih virov, spoštovanju okolja ter zagotavljanju varovanja zdravja.

Za dodatne informacije o načinih zbiranja odpadne električne in elektronske opreme, baterij in akumulatorjev se obrnite na občine ali na javne organe, ki so pristojni za izdajanje dovoljenj.



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