

Users
Manual

 **ARISTON**



eco

GENUS

TABLE OF CONTENTS

IMPORTANT!

- 1. GENERAL INFORMATION**
- 2. OPERATING INSTRUCTIONS**
- 3. USEFUL INFORMATION**

Please read this manual carefully.
For additional information, please consult the
“Installation and Servicing Instructions.”

Make sure to keep the manuals provided with
the appliance so that they can be used by the
end-user, installer or our authorised engineer.

*Every attempt has been made to avoid
errors of any kind in this User's Manual, the
Management invites customers to inform of
any inaccuracies which they may find. This
will help to improve our service.*

Dear Customer,

Thank you for choosing an ARISTON boiler.

We guarantee that your boiler is a reliable and technically sound product.

This User's Manual provides detailed instructions and recommendations for proper installation, use and maintenance.

Remember to keep this manual in a safe place for future reference.

Your local MTS Servicing Centre is at your complete disposal for all requirements.



GUARANTEE

The guarantee on this appliance is valid for 12 months from the first day of installation.

Repairs to the electric, water or gas circuits may be carried out only by your local authorised MTS Servicing Centre.

TECHNICAL INFORMATION**24 MFFI****24 RFFI SYSTEM**

		24 MFFI	24 RFFI SYSTEM
GENERAL DATA			
Thermal Capacity min/max	kW	8 / 24	8 / 24
Usable Thermal Power min/max (30/40°C)	kW	8.8 / 26.1	8.8 / 26.1
Usable Thermal Power min/max (60/80°C)	kW	7.9 / 23.3	7.9 / 23.3
Usable Thermal Power min/max (30/50°C)	kW	- / 24.5	- / 24.5
Power for Hot Water Production min/max	kW	7.9 / 23.3	7.9 / 23.3
Efficiency at Nominal Thermal Capacity (60/80°C)	%	97.3	97.3

CENTRAL HEATING			
Temperature min/max (High Temperature range)	°C	42 / 82	42 / 82
Temperature min/max (Low Temperature range)	°C	30 / 75	30 / 75
Maximum Heating Pressure	bar	3	3
Expansion Vessel Capacity	l	7	7
DOMESTIC HOT WATER			
Temperature min/max	°C	36 / 56	36 / 56
Pressure of Water for Domestic Use min/max	bar	0.2 / 8-10	0.2 / 8-10
Heating Temperature min/max (Low Temperature range)	°C	30 / 75	30 / 75
Temperature of Water for Domestic Use min/max	°C	36 / 56	36 / 56
Flow Rate $\Delta T=30^{\circ}\text{C}$	l/min	11.1	N/A
Flow Rate $\Delta T=35^{\circ}\text{C}$	l/min	9.6	N/A

TECHNICAL INFORMATION (CONT'D)**24 MFFI****24 RFFI SYSTEM**

<i>ELECTRICAL DATA</i> Electrical Supply Power Consumption Protection of Electrical System	V/Hz W IP	230/50 130 4XD	230/50 130 4XD
<i>CATEGORY</i> Nominal Pressure/Natural Gas (G20) (boiler at maximum) Nominal Pressure/LPG (G30-31) (boiler at maximum)	mbar mbar	20 30	20 30

1. GENERAL INFORMATION

This is a combined appliance for the production of central heating (C.H.) and domestic hot water (D.H.W.).

This appliance **must be used only** for the purpose for which it is designed.

The manufacturer declines all liability for damage caused by improper or negligent use.

Do not allow children or inexperienced persons to use the appliance without supervision.

If you smell gas in the room, **do not turn on** light switches, use the telephone or any other object which might cause sparks.

Open doors and windows immediately to ventilate the room.

Shut the gas mains tap (on the gas meter) or the valve of the gas cylinder and

call your Gas Supplier immediately.

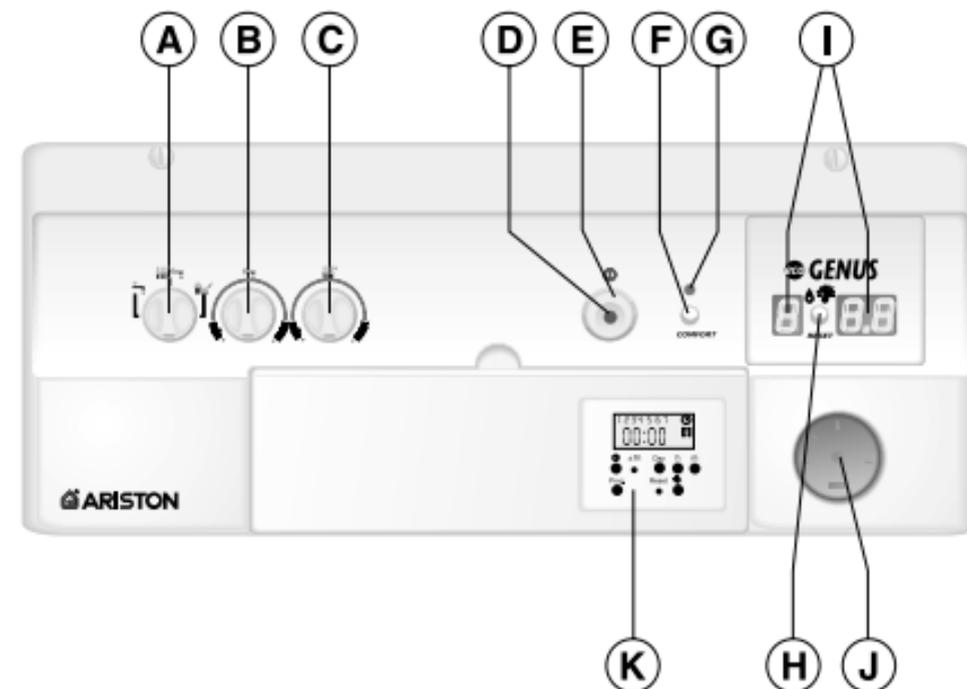
If you are going away for a long period of time, remember to shut the mains gas tap or the gas cylinder valve.

Before any intervention within the boiler it is first necessary to cut off the electrical power supply by turning the external switch to “OFF”.

This manual may be kept in the front panel of the boiler.

CONTROL PANEL

- A. Selector Knob for Summer/Winter/Flue Test Modes
- B. Domestic Hot Water Temperature Adjustment Knob
- C. Central Heating Temperature Adjustment Knob
- D. On/Off L.E.D.
- E. On/Off Knob
- F. "COMFORT"/Heating Only Function Push-button
- G. "COMFORT"/Heating Only Function L.E.D.
- H. Reset Button
- I. Multi-function Display
- J. Heating System Pressure Gauge
- K. Time Clock



2. OPERATING INSTRUCTIONS

CAUTION

Installation, start-up, adjustments and maintenance must be performed by a competent person only in accordance with the current Gas Safety (Installation & Use) Regulations and the instructions provided. Improper installation may cause damage or injury to individuals, animals and personal property, for which the manufacturer will not be held liable.

To ensure efficient and safe operation it is recommended that the boiler is serviced annually by a competent person.

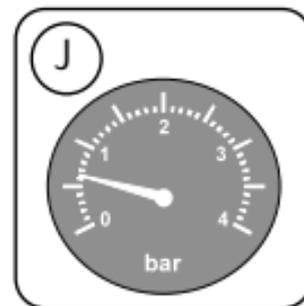
If it is known or suspected that a fault exists on the appliance, it must not be used until the fault has been corrected by a competent person.

HELPFUL SUGGESTIONS

To get the most out of your boiler, we have provided you with some useful advice on proper use and maintenance:

- Periodically check the system pressure using the pressure gauge “J” and make sure that the pressure is between 1.0 and 1.5 bar (the blue part on the gauge) when the system is off and cool. If the pressure is below the minimum recommended value, the pressure must be brought into the acceptable range. Consult your installer for checking and refilling the system.

If the pressure level drops on a frequent basis, it is likely that there is a water leak in the system. If this is the case, your installer must inspect the system.



- The outer panels of the boiler's case must only be cleaned with a damp cloth, do not use abrasive cleaners. The Control panel can be wiped with either a damp or dry cloth. Spray polishes must not be used on the control panel surface or knobs. Care must be taken in preventing any liquid entering the appliance.
- If the water is exceptionally hard, install a water softener so that the efficiency of the boiler remains the same over time, as this will consume less gas.
- To improve comfort levels and take full advantage of the heat produced by the boiler, it is recommended that an external thermostat be installed.
A programmable timer for the thermostat is also recommended to schedule when the boiler will turn on and off during the course of the day (or week), and an outdoor sensor to optimise operating times.
- When the boiler is not in use for prolonged periods shut it down by pushing

button “E”, the red light “D” will go out; close the gas and water isolation valves.

IMPORTANT!

This will disable the anti-frost device - if the period of disuse is very cold it will also be necessary to drain the heating system of water.

If you wish to leave the anti-frost device active, it is necessary to leave the boiler on: this will not safeguard from possible "blocks" which may impair this function.

- It is good practice to clean and service the appliance and central heating system every year.

Call an Authorised Service Centre.

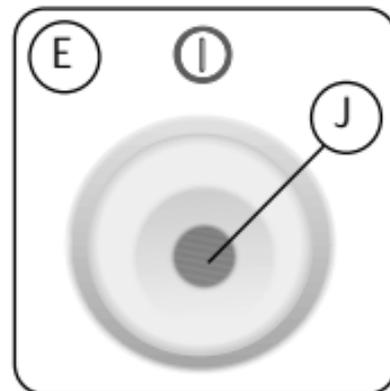
START-UP PROCEDURE

Before starting the boiler, check the following:

- The water pressure on the pressure gauge “J”;
- That the gas cock and the inlet for domestic water are open.

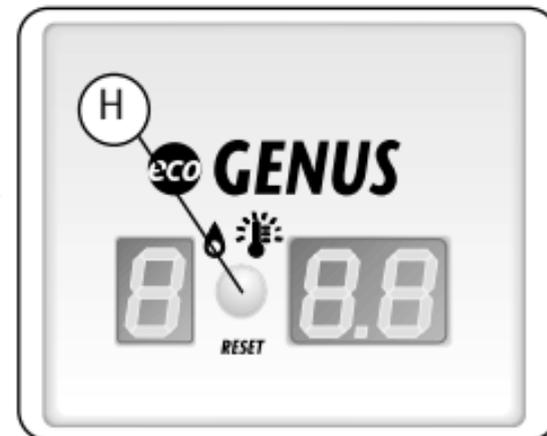
These models are equipped with electronic ignition which utilises contact ionisation.

To make the boiler operational, simply press the switch “E”. The red L.E.D. “D” will then turn on. At this point the boiler is ready for use: a centralised electronic control unit will automatically light the main burner when needed without any intervention from the outside. If the burner does not light within the pre-set safety time limit, the display will show an error



code.

To reset the ignition system, the reset button “H” must be pressed. Should the system fail to light a second time, check to make sure that the gas cock is open. If the problem persists, contact one of our Authorised Service Centres.

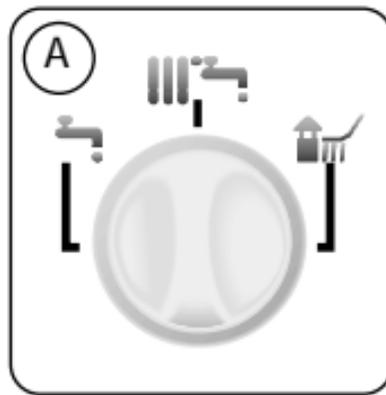


WINTER AND SUMMER OPERATING MODES

The boiler is fitted with a selector knob "A" which allows you to switch between winter <III' 2> and summer <2> operating modes and vice versa

When the knob is set to <III' 2>, the boiler can serve the dual purpose of providing heat or hot water for domestic use. The supply of domestic hot water always takes precedence over central heating.

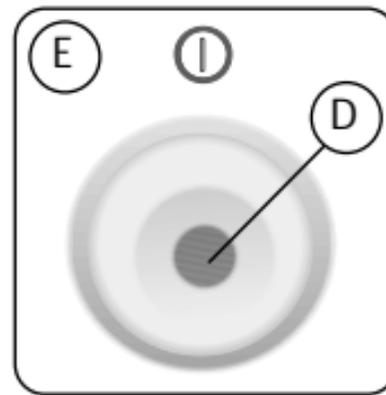
When the knob is set to <2>, the boiler cuts out the heating system and only provides domestic hot water (when needed).



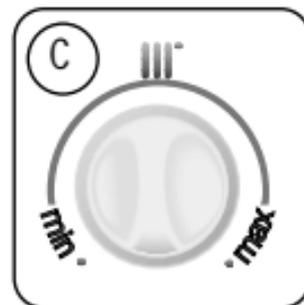
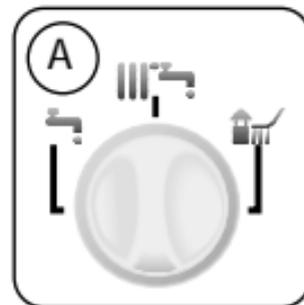
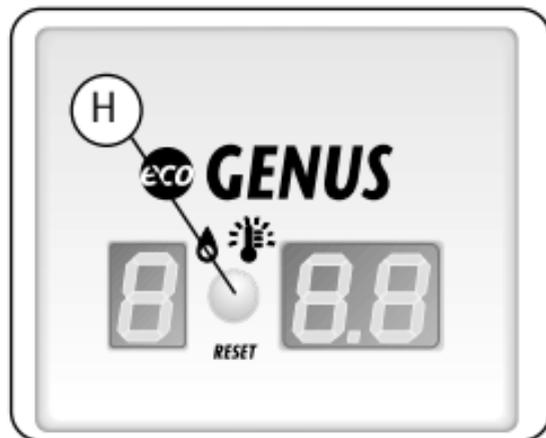
TURNING ON THE HEATING

Installation without an external thermostat:

- Turn on the power supply to the boiler by pressing the switch "E"; the red L.E.D. "D" will then turn on;
- Turn the "A" selector knob to <III' 2>;
- Regulate the temperature of the heating system water in the boiler by turning the "C" knob. The temperature can vary between 42°C and about 82°C;

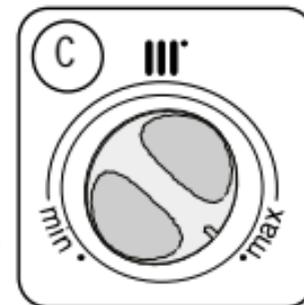


- The temperature of the heating system water in the boiler can be regulated on the alpha-numerical display. With this type of installation, the heating thermostat acts on ambient temperature directly.



Installation with an external thermostat:

- Turn the “A” selector knob to <III ̣>;
- Turn on the power supply to the boiler by pressing the switch “E”; the red L.E.D. “D” will then illuminate;
- Turn the thermostat knob “C” to the highest temperature setting.
- In this instant the boiler is controlled by a time clock and outdoor sensor; COMO (programmable thermostat) with or without an outdoor sensor; CCM with or without outdoor sensor i.e depending on internal or external temperature. At that point, the main burner will turn off and the circulation pump will stop (if a pump overrun period has not been set, see section 3.6.6. of the “INSTALLATION INSTRUCTIONS”).



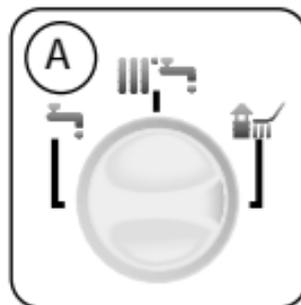
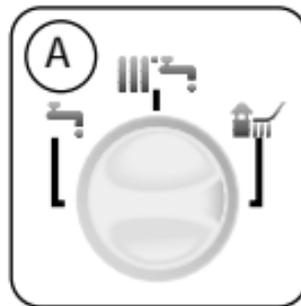
TURNING OFF THE HEATING

Installation without an external thermostat:

To turn off the heating, turn the “A” selector knob to . The boiler will still provide domestic hot water.

Installation with an external thermostat:

To turn off the heating, turn the “A” selector knob to . The boiler will still provide hot water for domestic use. With an external thermostat, there are a number of ways to turn off the heating. For additional information, please consult the relative manual.



ENERGY SAVING SUGGESTIONS

To improve comfort and take full advantage of the heat produced by the boiler, it is recommended that an external thermostat (remote control) be installed.

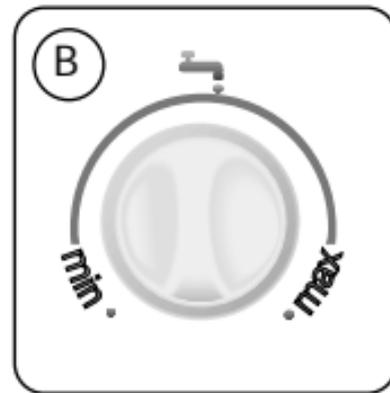
There are two control systems available:

- Timer and room temperature control only.
- Timer , room temperature and outdoor temperature sensor control.

PRODUCTION OF DOMESTIC HOT WATER

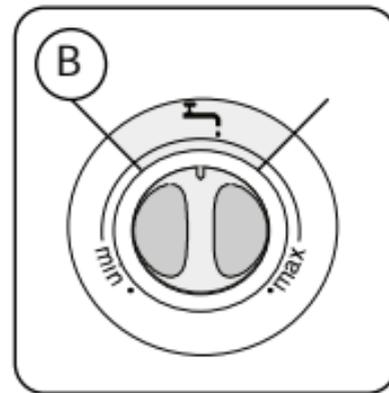
Turn on the power to the boiler by pressing the switch “E”; the red L.E.D. will then illuminate.

- With these settings, the boiler is already ready for use, regardless of the position of the “A” selector knob.
- Turn the “B” knob to select the temperature for the hot water (between 44°C and about 56°C depending on the flow rate of the water).



ADJUSTING THE TEMPERATURE OF THE DOMESTIC HOT WATER

It is recommended that the temperature knob for the domestic hot water is not set to a high temperature and then mixed with cold water. Setting the thermostat to medium temperature is preferable (see figure).

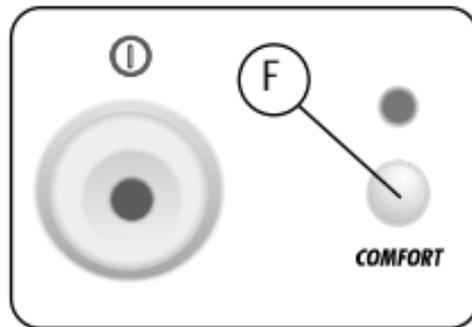


COMFORT FUNCTION 24 MFFI

The supply of water for domestic use can become more convenient by means of the “**COMFORT**” function, which maintains the secondary exchanger at a preset temperature when the boiler is not running; thereby allowing a quicker delivery of domestic water when required. This function is activated by pressing the “**F**” button on the control panel. When the function is on, a green L.E.D. on the control panel will illuminate.

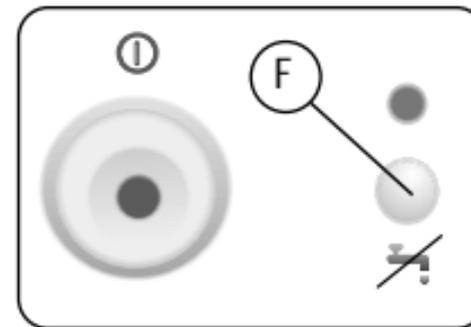
NOTE: If the “**COMFORT**” function is on during the pump overrun period, it will be temporarily deactivated. The green L.E.D. will remain on to indicate that the boiler will resume the “**COMFORT**” mode once the pump overrun period is complete.

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HEATING ONLY BUTTON 24 RFFI SYSTEM

This function can be activated by pressing the “**F**” button on the control panel. When the function is on, a green L.E.D. on the control panel will illuminate. This means that the external cylinder is not kept at the set temperature and that only the anti-frost protection is on. When the temperature falls below 5°C, the boiler ignites and heats the water until the temperature exceeds 10°C.



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DISPLAY: VIEWING NORMAL FUNCTIONS

When the system is operating, i.e. while the boiler is fulfilling its normal functions, the left-hand display will show a series of letters indicating the following functions:

- Diagnostics Stage (precedes all other functions)
- No Request for Heat
- Heating, Burner Off
- Heating, Burner On
- c Pump Overrun for Heating
- d Water for Domestic Use, Burner Off
- d Water for Domestic Use, Burner On
- h Pump Overrun for Water for Domestic Use
- b Storage Cylinder, Burner Off (SYSTEM version)
- b Storage Cylinder, Burner On (SYSTEM version)



NOTE: the **flashing dot** on the left-hand display always indicates “burner off”; the **still dot** indicates “burner on”.

The right-hand display (two-digit) shows:

- in heating mode: temperature of heating system flow;
- in domestic hot water mode: temperature domestic hot water.

SHUTDOWN PROCEDURE

To turn off the main burner, simply press the switch “E”; the red L.E.D. “D” will then turn off. As a precautionary measure, it is recommended that the gas cock located on the bottom of the boiler, is also turned off.



TIME CLOCK

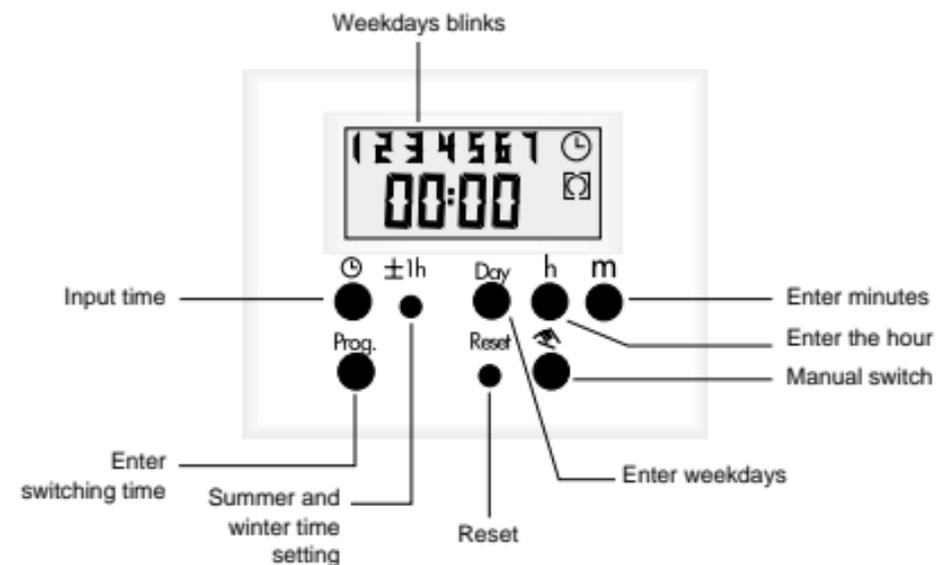
The steps marked with the symbol ► are necessary to carry out a switching program.

► PREPARING FOR OPERATION

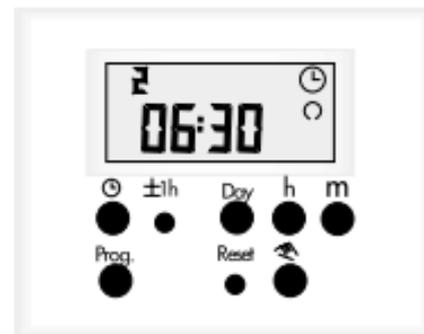
Activate the “**Reset**” switch to reset the time switch to its default settings (activate using a pencil or similar pointed instrument). Do this:

- every time you wish to “**Reset**” the time switch;
- to erase all switching times and the current time of day

After approximately two seconds the following display appears:



▶ **ENTER CURRENT TIME AND WEEKDAY**



Keep the “” key pressed down. During the summer time period press the **+/-1h** key once. Enter the hour using the “**h**” key. Enter the minutes using the “**m**” key. Enter the day using the “**Day**” key.
1 = Mon 7 = Sun
Release the “” key.

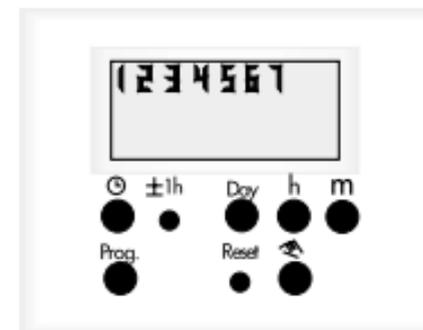
The colon now blinks once a second.

AM/PM TIME DISPLAY

If you press the “**+/-h**” and “**h**” keys at the same time, the time display switches into the AM/PM mode.

NOTE: If you keep the “**h**” and “**m**” keys pressed down for more than 2 seconds, the display will enter fast forward scroll mode.

▶ **ENTERING THE SWITCHING TIMES**



If your entry is incomplete, the segments not yet selected will blink in the display. You have 20 memory locations available. Each switching time takes up one memory location. Keep pressing the “**Prog**” key until a free memory location is shown in the display “**-- : --**”. Program ON or OFF with the “” key:
“” = ON - “” = OFF.

Enter the hour using “h”; enter the minutes using “m”.

If a switching command is to be carried out every day (1 2 3 4 5 6 7) then store using the “⌚” key, otherwise select the days it is to be carried out on by using the “Day” key.

When the day selection is left blank, the programmed switching instruction operates at the same time every day.

1 2 3 4 5 6 7	Monday Sunday
1 2 3 4 5 6	Monday Saturday
1 2 3 4 5	Monday Friday
6 7	Saturday Sunday
1	Monday
.....	(selection of single days)
7	Sunday

Store using the “⌚” key or push “Prog” key if you are going to continue programming. The time switch enters the automatic operating mode and displays the current time of day. Begin any further entry of a switching time with the “Prog” switch.

If necessary, once you have finished programming and have returned to the current time display, by pressing the “⌚” button, the timer will not automatically switch to the current programmed status until the next timed setting. You can put the timer into the correct mode with the “👉” key.

ADDITIONAL FUNCTIONS

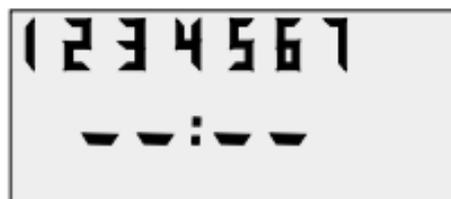
Switching from summer time to winter and vice versa.
Press the “+/-1h” key once.

MANUAL OVERRIDE KEY

With the “” key you can change the current switching settings at any time.
The switching program already entered is not altered.

AUTOMATIC OPERATION 	MANUAL OPERATION 	CONTINUOUS OPERATION []
 	 	 
<p>The switching times correspond to the program entered.</p>	<p>If the current switching mode is changed manually, the next switching time will be carried out automatically again according to the entered switching program.</p>	<p>You can only return to automatic mode from the continuously ON and continuously OFF switching modes by pressing the “” key.</p>

Pressing the “**Prog**” key displays the programmed switching times until the first free memory location appears in the display “-- : --”.



If you now press the “**Prog**” key once again, the number of free memory locations will be displayed, e.g. “Fr 20”. If all memory locations are occupied, the display “Fr 00” appears.



CHANGING THE PROGRAMMED SWITCHING TIMES

Press the “**Prog**” key repeatedly until the switching time you want to change is displayed. You can now enter the new data. See “**ENTERING THE SWITCHING TIMES**”.

NOTES ON STORING SWITCHING TIMES:

If you end your entry of the switching times by pressing the “**Prog**” key, the switching time you have entered will be stored and the next memory location displayed.

Entry of further switching times is also carried out as described in “**ENTERING THE SWITCHING TIMES**”.

In addition, a complete switching command is stored automatically after around 90 seconds provided no other key is pressed.

The time switch then enters the automatic operating mode and displays the current time again.

DELETING INDIVIDUAL SWITCHING TIMES

Press the “Prog” key repeatedly until the switching time you wish to delete is shown in the display.

Then set to “--” using the “h” or “m” key and keep the “⌚” key pressed down for around 3 seconds.

The switching time is now erased and the current time is displayed.

3. USEFUL INFORMATION

BOILER SHUTDOWN

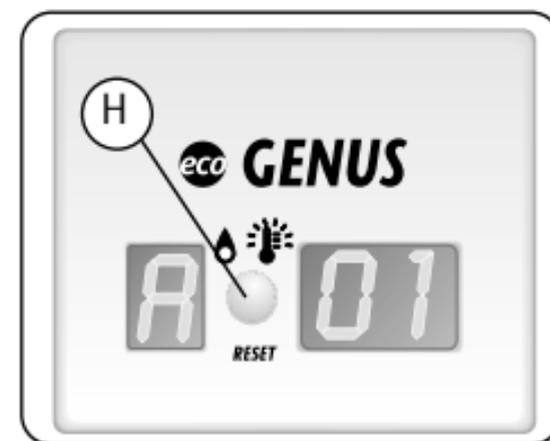
The boiler is equipped with safety devices which intervene in certain situations to shutdown the boiler. Some of these situations are signalled by the boiler and can be corrected by the user.

SHUTDOWN DUE TO IGNITION FAILURE

This anomaly is indicated by “A01” on the display. To reset the boiler, press and then release the “H” button.

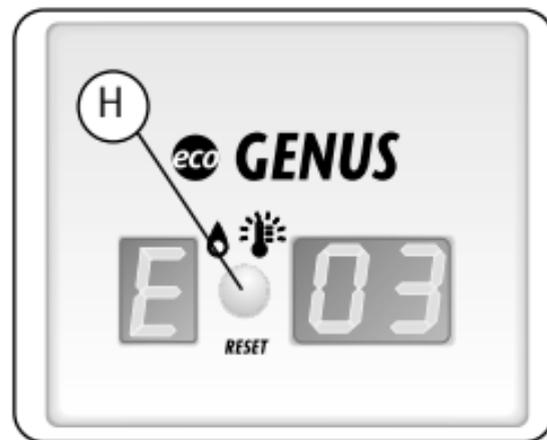
At this point, the electronic ignition system will attempt to light the burner again.

Should the boiler fail to ignite a second time, check that the external gas cock is open. If the problem persists, contact an Authorised Service Centre.



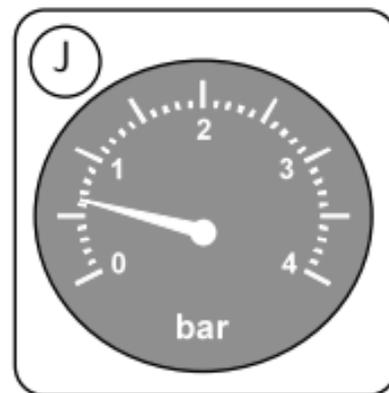
SHUTDOWN DUE TO OVERHEATING

This anomaly is indicated by “E03” on the display. The boiler has shutdown because the safety thermostat detected that the boiler temperature has exceeded the maximum limit. To reset this state, wait until the boiler has cooled and press the button “H”. If the safety thermostat operates on a frequent basis, contact one of our Authorised Service Centres.

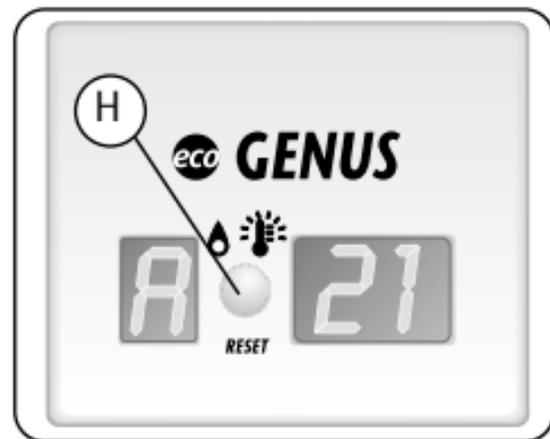


SHUTDOWN DUE TO INSUFFICIENT WATER CIRCULATION

This anomaly is indicated by “R21” on the display. One of the possible causes of this shutdown situation could be the lack of water in the boiler or water circulation failure in the primary heating circuit. Check the system pressure on the pressure gauge “J” and, if it is less than 0.5 bar, try bringing the system pressure up to a mean value of 1.0 bar by opening the water inlet valve. Then reset by turning the boiler off and then back on by pressing the button “H”.



If this situation persists, contact one of our Authorised Service Centres.



OTHER SHUTDOWN SITUATIONS

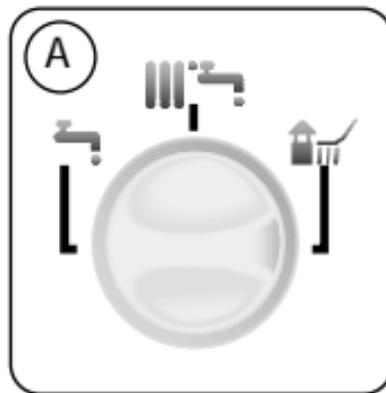
Should a shutdown situation indicated on the display by the following letters and figures occur, E04, E05, E08, E20, E21, E22, E23, E5b, E64, E6b, E74, E99 contact one of our Authorised Service Centres.

If instead the display shows one of the shutdown situations indicated by the following letters and figures, A02, A03, A07, A19, A20, A22, A99, try resetting the boiler by pressing the reset button "H". If the boiler shuts off again, contact one of our Authorised Service Centres.

FLUE TEST FEATURE

(ONLY FOR AUTHORISED PERSONNEL)

The “A” Summer/Winter/Flue Test selector knob can be set to <  > to bypass temperature adjustment on the heating circuit for the purpose of analysing the fumes produced by combustion. To access this mode, open a water tap so that the flow rate is no less than 8 litres per minute. Then push the “A” selector knob in and turn it from <  > or <  > to the <  > position.



CAUTION!

The flue test function makes the boiler run continuously at its maximum power. This condition should be used exclusively by authorised personnel.

TEST MODE

The P.C.B. allows for the boiler to be pushed at its maximum or minimum thermal capacity. For the relevant information, refer to section 3.7.5. of the “INSTALLATION INSTRUCTIONS”.

N.B. Should the boiler not be used for a long period of time, the condensate trap must be filled up again before re-starting the boiler. Failure to add water to the trap is dangerous because exhaust fumes could be released into the environment.

Manufacturer: **Merloni TermoSanitari SpA - Italy**

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23 99 84 1378 000