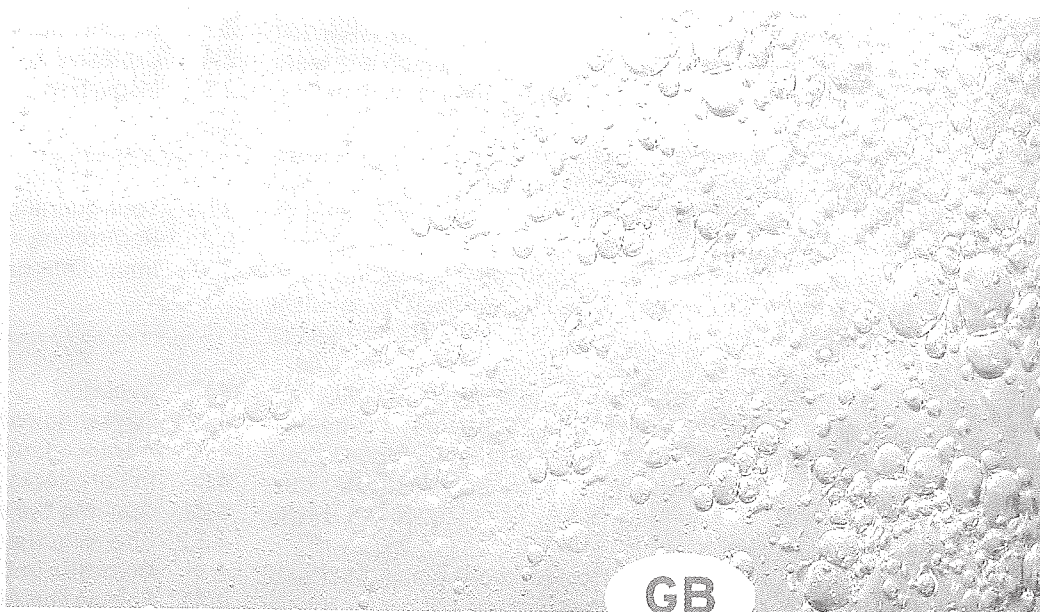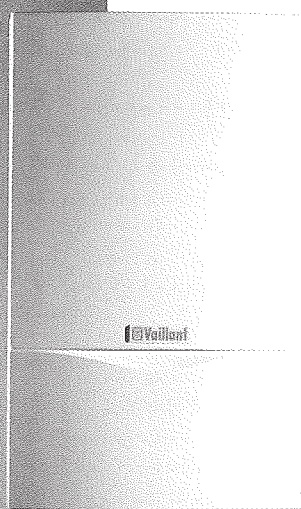# Central Heating Boiler

Vaillant

Instructions for Use
ecoMAX

Wall hung room sealed fan assisted condensing boilers

GB

ecoMAX 613/2 E

ecoMAX 618/2 E

ecoMAX 622/2 E

ecoMAX 824/2 E

ecoMAX 828/2 E

ecoMAX 835/2 E

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ecoMAX 600/2 E, 800/2

Fig. B.1 Operating controls

4 Operation

4.1 Overview

4.1.1 Operating controls

For access to the controls pull the front flap from its catches, located at the top right and left hand corners and pull downwards.
The following can be seen:

1 Maximum radiator temperature control (page 12)
2 The "+" and "-" buttons for the display panel
3 Main ON/OFF control (pages 10 and 14)
4 Built in control/timer module (if fitted)
5 The "i" information button
6 Boiler display indicates current operating mode and additional information
7 "Reset" button: (see page 13)
8 Maximum hot water temperature control and warmstart ON/OFF control (page 11)
   (**ecoMAX 800 series only**)
9 Pressure gauge displaying the pressure in the heating system
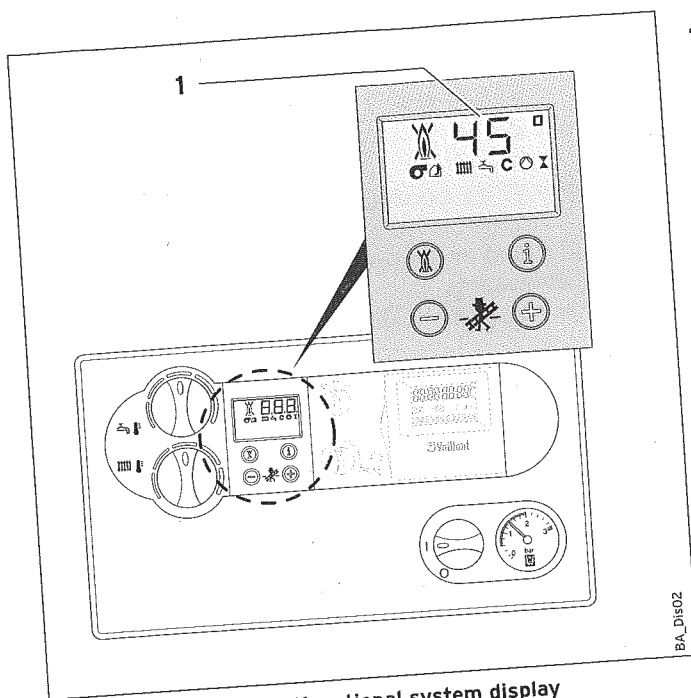
Fig. B.2 Advanced multifunctional system display

BA_DisO2

4.1.2 Advanced multifunctional system display

The boiler system display (Fig. B.2) shows - during normal operation - constant information on the heating system flow temperature (Fig. B.2. example gives flow temperature of 45 °C).

In the event of a malfunction, this temperature display is replaced by the relevant error code (see page 15). The displayed also give the following information:

1   Indication of the current heating system flow temperature, or display of a status (see page 11) or error code

    Fan speed malfunction

    Fan speed malfunction

    Heating mode active

    Hot water on (**ecoMAX 800 series only**)
    Illuminated: hot water demand
    Flashing: warmstart demand (burner is on)

C   Warmstart is on (**ecoMAX 800 series only**)
    Illuminated: warmstart turned on
    Flashing: warmstart demand (burner is on)

    Internal pump is running

    Gas valve is activated

    Flame crossed out:
    Boiler is at lock out and will display fault code

    Normal flame:
    Correct burner operation
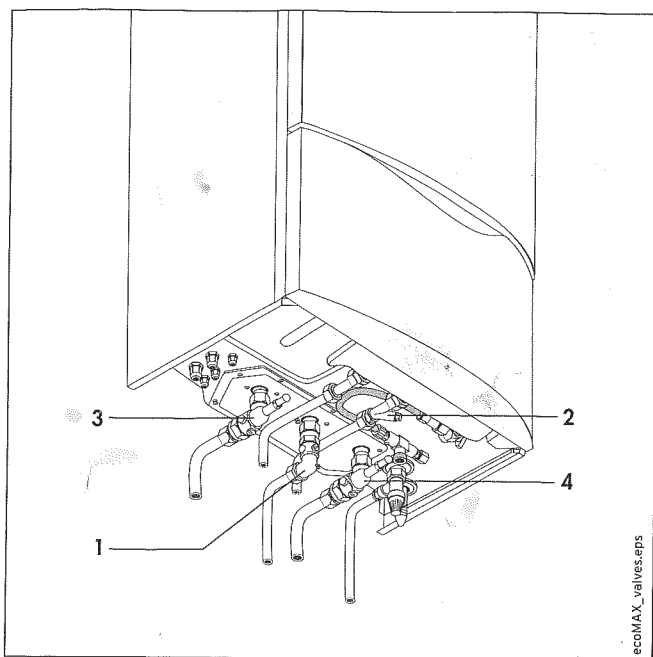
Fig. B.3 Opening the service valves

4.2 Initial checks before turning ON

4.2.1 Open the service valves
- Ensure the cold water service valve (**2**) is open. This can be checked by opening a hot water tap and ensuring water flows.
- Ensure that the service valves in the heating flow and return (**4** and **3**) and the gas service valve (**1**) are open.

The flow, return and gas service valves are open when the line marking has the same direction as the pipe.

> ⚠️ **The pressure relief valve (5) is provided for safety reasons and must not be interfered with.**

> ☞ **Note:**
> **A bottom cover is fitted to the appliance. The service valves are fitted behind this cover.**
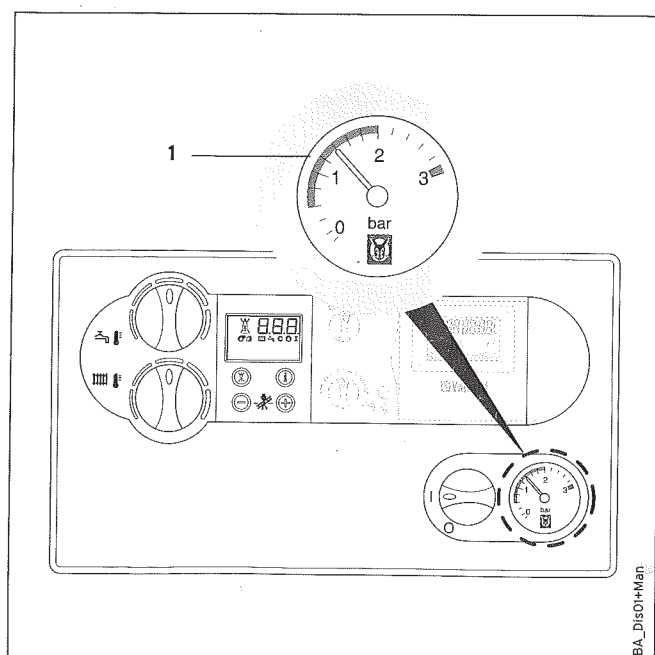
Fig. B.4 Checking the water contents

4.2.2 Check the water contents
- Check the water contents of the system on the pressure gauge (**1**).
  The needle on the pressure gauge should be within the green band (between 1 and 1.5 bar). If the needle displays a value below 0.8 bar when the appliance is cold, follow the instructions left by your installer to refill the system.
  Alternatively, your installer should be called to refill the system.
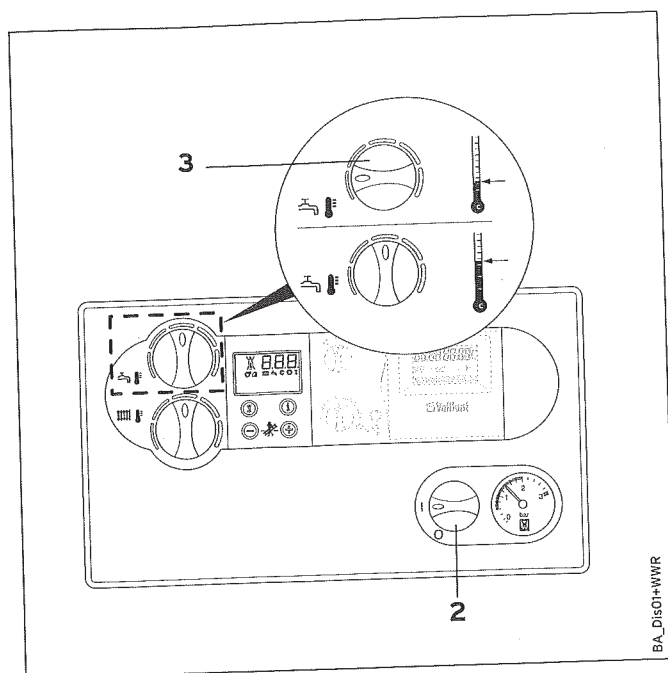
Fig. B.5 Domestic hot water operation

BA_Dis01+WWR

4.3 Domestic hot water operation

The boiler should only be used when the heating system contains water. Use of the boiler without water may cause damage to the boiler or its components.

4.3.1 Setting the maximum domestic hot water temperature control (ecoMAX 800 series only)

- Turn the main switch (2) to the "I" position.
- The display will show the boiler flow temperature which indicates electrical power to the boiler.
- The domestic hot water temperature can be adjusted using the hot water temperature control (3).
- Turn the control clockwise to increase the temperature and anti-clockwise to decrease the temperature.

Note:
This control adjusts the maximum domestic hot water temperature. If adjusting the control upwards appears to have no effect on the temperature, then the boiler is already operating at full output for the selected flow rate.

Caution!
If you live in a hard water area please do not set the control knob above the mid (12 o'clock) position to prevent excessive scale formation (fig. B.5).
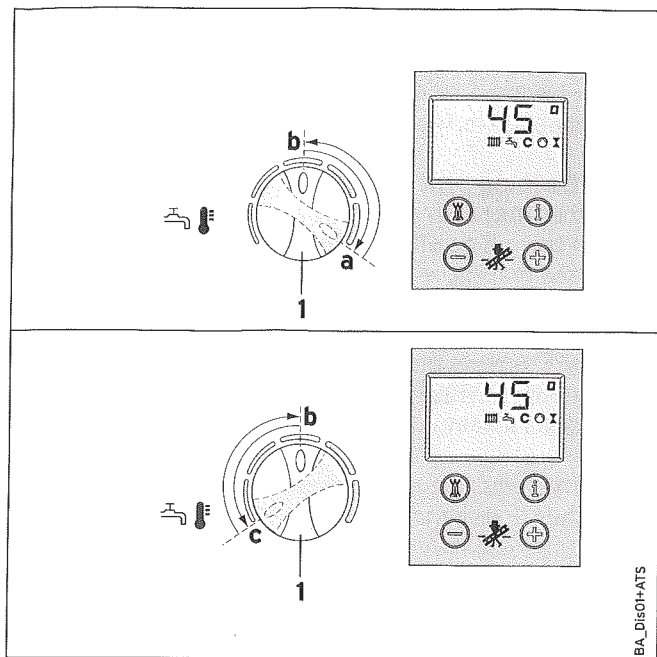
Fig. B.6 Warmstart operation (ecoMAX 800 series only)

4.3.2 Warmstart operation (ecoMAX 800 series only)

The warmstart facility provides instantaneous delivery of domestic hot water from the boiler.

When the warmstart system is switched ON the boiler will automatically light periodically to maintain the internal temperature of the boiler. When the warmstart system is switched OFF a short delay may be experienced in obtaining hot water at the tap.

● The warmstart system is activated by turning the hot water temperature control knob (1) clockwise to position a (see fig.B.6). Now select the required temperature, e.g. setting **b**
An illuminated " **C** " symbol appears on the boiler display.
The boiler will now provide instantaneous delivery of hot water directly when a hot water tap is turned ON.
● The warmstart system is switched OFF by turning the hot water temperature control knob (1) anticlockwise to position **c**. The " **C** " is NOT now illuminated. Reset the hot water temperature control knob to the desired setting, e.g. setting **b**

Note:
Irrespective of whether the warmstart facility is switched ON or OFF, the boiler will automatically operate to provide hot water whenever a hot water tap is opened.
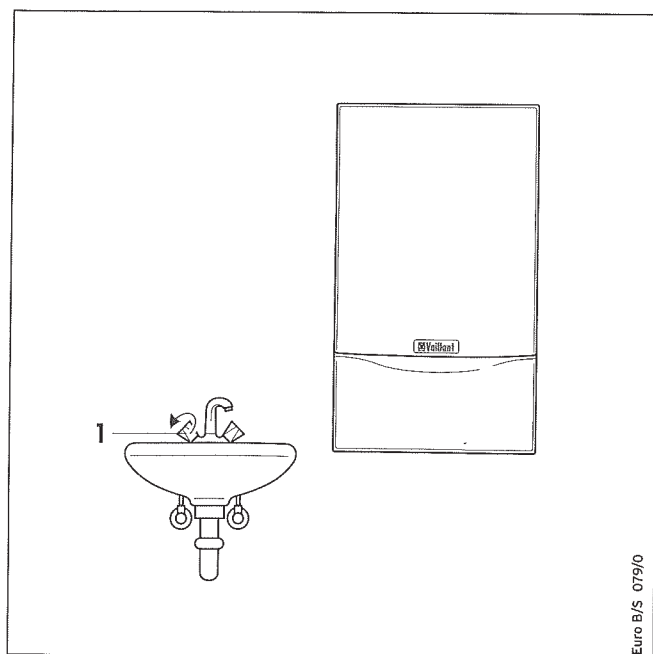
4.3.3 Obtaining hot water (ecoMAX 800 series only)

On opening a hot water tap (1) fig. B.7) at a supply point (basin, shower, bath, etc) the ecoMAX 800 series boiler will automatically operate to deliver hot water.

On closing the tap the boiler switches OFF (or continues to operate for central heating if required).
The pump and fan will continue to operate for a short period.

Fig. B.7 Obtaining hot water (ecoMAX 800 series only)
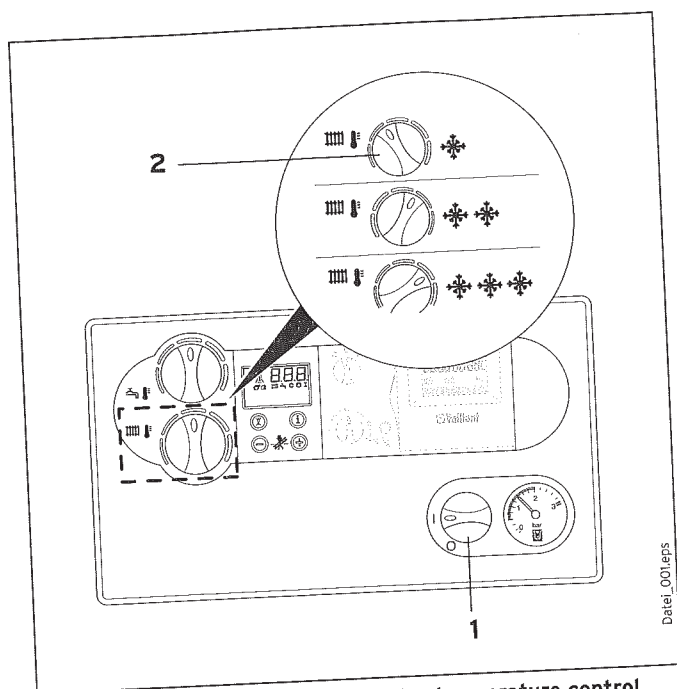
Fig. B.8 Setting the maximum radiator temperature control

4.4 Heating operation

The boiler should only be used when the heating syste contains water. Use of the boiler without water may cause damage to the boiler or its components.

4.4.1 Setting the maximum radiator temperature control

● Turn the main switch (1) to the "I" position.
● Set the maximum radiator temperature control to desired setting using the control knob (2).
We recommend the following settings:
- **Left setting** during spring and autumn,
- **Middle setting** during mild winter,
- **Right setting** during cold winter.

When the temperature is adjusted, the boiler display show the corresponding water temperature. This information appears on the display for about 5 seco and then the display returns to its normal state (cur heating flow temperature e.g. 45 °C).

ecoMAX 600
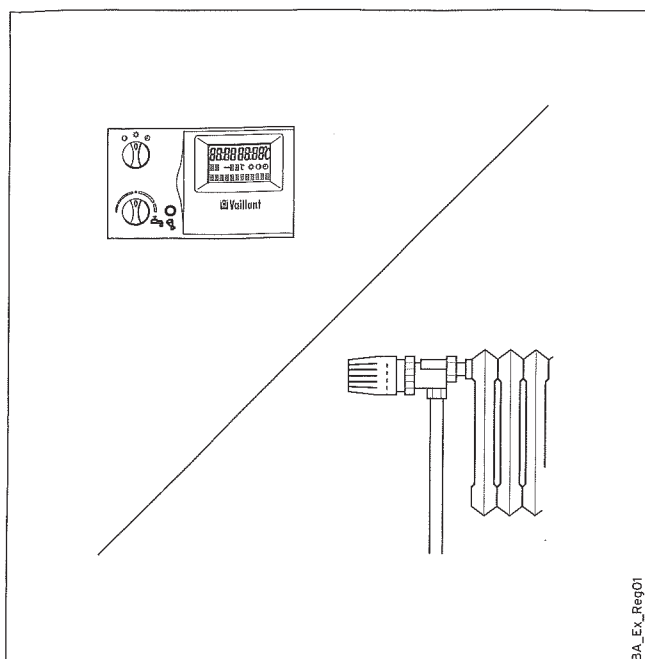
Fig. B.9 Setting the external controls

4.4.2 Setting the external controls

● Set the room thermostat and/or the thermostatic radiator valves according to the instructions supplied with the control(s).

☞ **HINT!**
Vaillant offer room thermostat/time control accessories which give accurate and economic room temperature control as well as improved comfort.

Ask your installer!

The boiler will now operate automatically to provide central heating for the conditions selected on the external controls (ecoMAX 800 series will also provide domestic hot water on demand).
Whilst the boiler is operating, the boiler display indicates the temperature of the water within the boiler circuit. After the boiler stops operating the pump and fan will continue to operate for a short period to fully disperse the heat from the boiler.

☞ **Note:**
**The boiler incorporates an anti-cycling economiser control to prevent energy wasteful ON and OFF operation of the boiler for short periods when in the central heating mode. When turning the room thermostat to a higher setting there may therefore be a short delay before the boiler operates.**
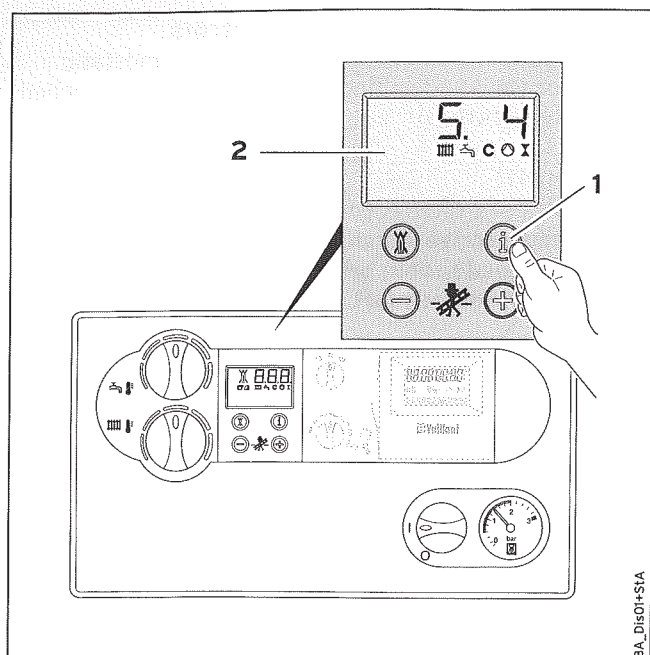
Fig. B.10 Status displays

4.5 Status displays (Fig. B.10) (for maintenance and servicing work carried out by a qualified service engineer)

● The status displays are activated by pressing the "i" (1) button.

The display (2) now shows the corresponding status code, e.g. "**S.4**" for burner operation. Please refer to table B.1 (below) for details of the most important status codes.

● Press the "i" button again to return to normal mode.

During changeover phases, such as when the system restarts after the flame has been extinguished, the "**S**" status message is displayed briefly.

Display	Meaning
S. 0*	No heat requirement
S. 1*	Pump running
S. 3*	Heating system ignition
S. 4*	Burner ignited
S. 5*	Fan and pump overrun
S. 7*	Pump over run
S. 8*	Anti cycling mode (after heating operation)
S. 10**	Hot-water demand
S. 14**	Burner ignited
S. 34*	Frost protection mode

Table B.1: Status displays (a complete list of status codes can be found in the installation and maintenance instructions)

* Heating mode
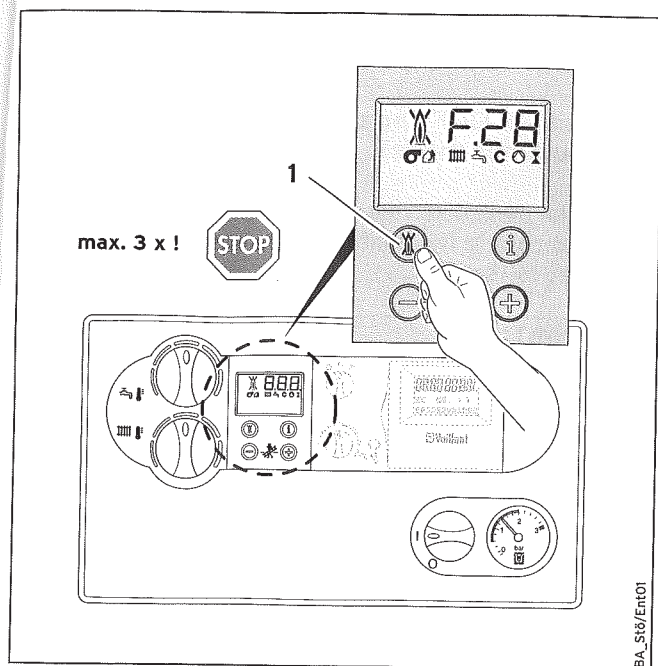** Hot-water mode (ecoMAX 800 series only)

Fig. B.11 Resetting the appliance

4.6 Resetting the appliance

When a hot water tap (ecoMAX 800 series only) or the central heating system requires heat, the boiler automatically ignites and starts to operate. If the automatic ignition is not successful within 5 attempts, then the boiler does not go into operation and switches to "**Lock out**".
This is indicated by a fault code "**F.28**" or "**F.29**" on the display.
A new attempt to ignite the flame can then only be performed after pressing the "Reset" button.

● Press the "Reset" button (1) and hold for approx. 1 second.

> ⚠ **If the boiler still shuts off after a third attempt, then please consult your installer or Vaillant Service Solutions.**

The boiler also switches to "**Fault**" when there is not enough water in the system. This fault is indicated by fault code "**F.22**" "**F.23**" or "**F.24**".
The boiler can only be placed back in operation after the heating system has been properly refilled with water.

In the unlikely event of any other fault developing, which prevents the boiler from operating, the display will also show other fault codes. If a fault code is displayed please contact your installer or Vaillant Service Solutions.

> ☞ **Note:**
> **If contacting Vaillant Service Solutions please remember to quote the fault code, as this will help to pinpoint the fault.**
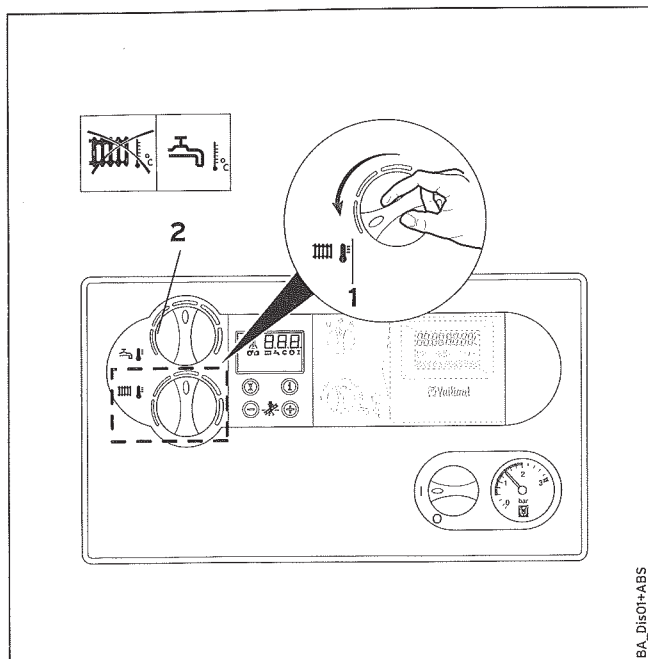
Fig. B.12 To turn OFF the central heating only (Summer mode)

4.7 Turning the boiler OFF (ecoMAX 800 series only)

4.7.1 To turn OFF the central heating only (Summer mode)

● Turn the maximum radiator temperature control knob used to control the heating supply temperature (1) all the way to the left.

☞ **HINT!**
You can switch off the heating operation in summer, for example, but the boiler will continue to provide domestic hot water whenever a hot water tap is opened.
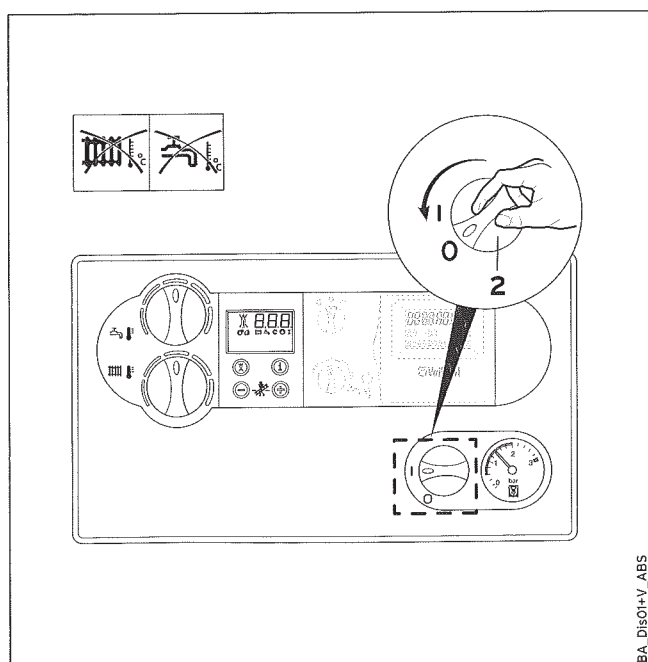
4.7.2 To turn OFF central heating and hot water for short periods of time

● Turn the main ON/OFF control (2) to the "0" position.

If you want to turn the ecoMAX boiler OFF for a longer period of time (e.g. holidays), and there is no danger of frost, then you should also turn off the gas supply, the cold water service valve (see page 9) and the electrical supply. Please note the frost protection hints detailed in these instructions.

Fig. B.13 Complete shutdown

4.8 Turning the boiler OFF (ecoMAX 600 series only)

4.8.1 To turn OFF the central heating

● Turn the maximum radiator temperature control knob used to control the heating supply temperature (**1**) all the way to the left.

☞ **HINT!**
Do not turn the EcoMAX 600 boiler OFF if a hot water cylinder is also incorporated in the system unless there is no demand for domestic hot water.

4.8.2 To turn boiler OFF for short periods of time

● Turn the main ON/OFF control (**2**) to the "**O**" position.

☞ **HINT!**
Do not turn the EcoMAX 600 boiler OFF if a hot water cylinder is also incorporated in the system unless there is no demand for domestic hot water.