



# USER GUIDES

## Heat only boiler



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Chalgrove  
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OX44 7RW

# Honeywell



## ST9100C – User Guide

7 Day Timer, 1 channel, 3 on/off per day



This document is to be left with the user and forms part of a Home Information Pack



PLEASE RESPECT YOUR ENVIRONMENT!  
Take care to dispose of this product and any packaging or literature in an appropriate way

### WHAT IS A PROGRAMMER?

...an **Explanation for Household**ers (as recommended by the **Energy Savings Trust**)  
Programmers allow you to set 'On' and 'Off' time periods. Some models switch the central heating and domestic hot water on and off at the same time, while others allow the domestic hot water and heating to come on and go off at different times. Set the 'On' and 'Off' time periods to suit your own lifestyle. On some programmers you must also set whether you want the heating and hot water to run continuously, run under the chosen 'On' and 'Off' heating periods, or be permanently off. The time on the programmer must be correct. Some types have to be adjusted in spring and autumn at the changes between Greenwich Mean Time and British Summer Time. You may be able to temporarily adjust the heating programme, for example, 'Override', 'Advance', or 'Boost'. These are explained in the manufacturer's instructions. The heating will not work if the room thermostat has switched the heating off. And, if you have a hot-water cylinder, the water heating will not work if the cylinder thermostat detects that the hot water has reached the correct temperature.



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## Features

Easy to use slider and buttons combined with 'LoT™ Technology' and an 'OK' button, allows you to confirm changes and stay in control.

**LoT™ Technology** provides you with informative 'on-screen' feedback and operational assistance as and when required.

**Extra Large LCD (Liquid Crystal Display) with Backlight** provides added user friendliness and clearer viewing – even in the dark.

**7-day Programmes** let you choose settings built into ST9100C for each day of the week to match your lifestyle, while maximising energy savings, or alter them to your personal settings.

**Automatic Summer/Winter Time Change** will adjust the clock forward and backward automatically when the clocks change, saving you having to change your ST9100C every time.

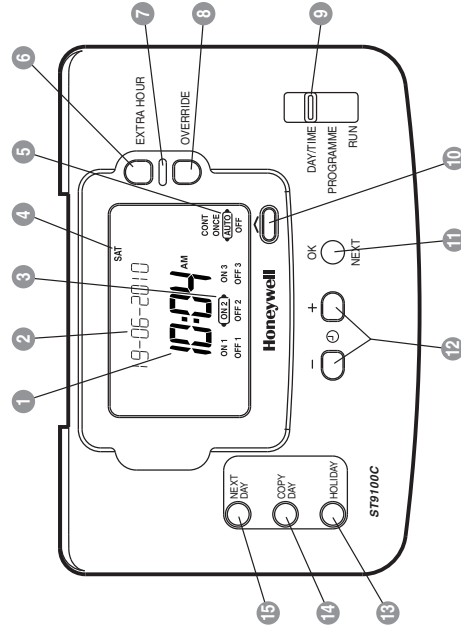
**Built-in Memory** holds your programme indefinitely - even if the mains power fails.

## Energy Efficiency and the Environment

Home energy use is responsible for more than ¼ of the total UK carbon emissions which contribute to climate change. Heating and hot water systems based on boilers account for ½ of this figure, so it is important to understand how your controls can help to maximize energy efficiency while maintaining your comfort. Your Timer should be used in conjunction with appropriate temperature controls. In order to save energy the following general points should be observed:

1. Ensure your system contains a room thermostat and a hot water thermostat, and that both are set to appropriate temperature levels: typically 20°C for the room temperature and between 55 - 60°C for the hot water temperature.
2. Programme your heating and hot water to be off when you are not in the house. If you are concerned about possible frost damage to any exposed pipe work, it is advisable to fit a frost protection system – your installer can advise you about this.
3. Think about how you use your domestic hot water – if you have a storage system, it is not necessary to have this switched on all the time, even when you are in the house.
4. Consider the heat up times required for your central heating. Every home responds differently when the heating is switched on. Adjust the start time so that you are not cold when you get up in the morning. A shorter heat up time is required for other heating periods.
5. In the evening, when the house is up to temperature, it is often possible to switch off the heating up to an hour before you go to bed, without any noticeable reduction in comfort.

## ST9100C Controls Layout



- 1 Time Display
- 2 LoT™ Technology Display
- 3 Programme Time Markers
- 4 Day of Week Indicator
- 5 Operating Mode Indicator
- 6 Extra Hour Button
- 7 Indicator Lamp
- 8 Override Button
- 9 Slider
- 10 Operating Mode Button
- 11 OK/Next Button
- 12 Clock - and + Buttons
- 13 Holiday Button
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**Keep this document in a Home Information Pack**

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## CONFIGURATION & SERVICE DATA

### Boiler & System Service Log

The space below can be used to provide a record of boiler & system services and the names and contact numbers of the Installer and Service Personnel.

This information is important for a Home Information Pack.

Service/Installation Date	Installation/Service Engineer	Telephone Number / Contact Details

## General Description

Your Honeywell ST9100C provides timing control for your central heating system, letting you set **ON** and **OFF** periods to suit your own lifestyle.

The ST9100C does not directly control the temperature but works together with other temperature controls, such as room thermostats, to control your heating system in your home.

With 7-day programming and up to 3 on/off periods per day, every day can be set differently.

The following instructions explain how to programme and use the ST9100C to provide the most home comfort at the least cost.

## The way to use a Timer

Think about the time periods when you are typically in the house and when you are not. These are the times you should use as the basis for the programmes. It will be necessary to allow some heat-up time for the heating system after periods when it has been off – this would typically be 1 - 1½ hours, depending on your house and your preferences.

Other features are commonly available on the *Timer* to enhance comfort and convenience, for example, **OVERRIDE**, **EXTRA HOUR**, and **MODE** buttons.

A typical use of the **OVERRIDE** feature is when you return home unexpectedly for the rest of the day and the heating is off. Just press the **OVERRIDE** button and the heating will come on until the next programme time, at which point it will follow the normal programme. The advantage here is that you do not have to remember to switch off because the normal time programme does this for you.

A typical use of the **EXTRA HOUR** button would be if you returned to the house for a short period when the heating was off. Pressing the **EXTRA HOUR** button gives you 1, 2, or 3 hours of heating, exactly when you need it. Another typical use is when the heating is already on and you want it to stay on a little longer - just press **EXTRA HOUR** and, for that day only, an hour will be added to the end of the time at which heating normally goes off.

The **MODE** button allows you to select how you want to operate your heating. The most obvious use is to switch heating **OFF** during the summer months, but you may also use this feature if you take a mid-week day off work, you can then set the **MODE** to **ONCE** to keep the system **ON** during the day from the first programmed **ON** time till the last programmed **OFF** time.

## GETTING STARTED WITH YOUR ST9100C

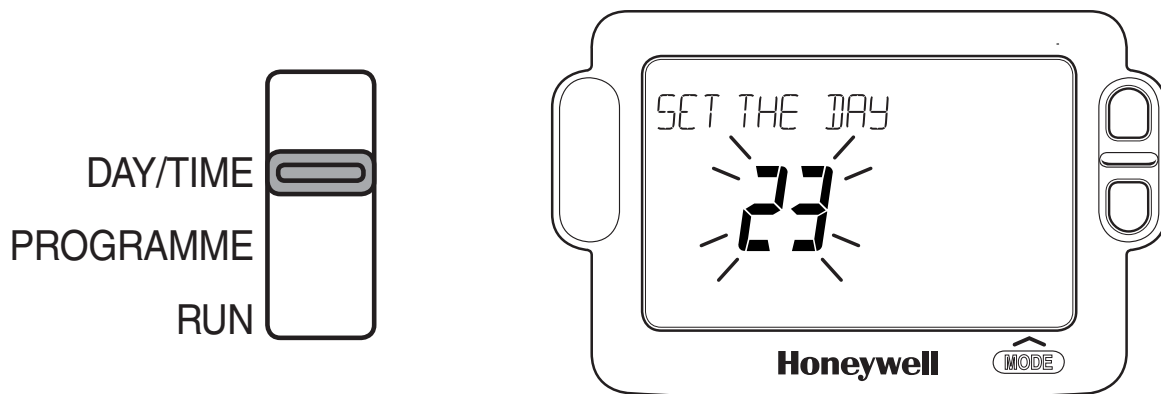
**Your ST9100C should have been set up to work correctly when it was installed. However, the following will show you how you can modify your settings to meet your particular lifestyle.**

To assist you with programming and everyday use your ST9100C will display text messages at every stage to help you get the most out of your central heating system. The ST9100C uses LoT™ Technology to constantly update the display to give you feedback about what is required.

### Step 1: Setting the Date & Time

Your ST9100C had the date and time set at the factory, and these are normally maintained by a backup battery in the event of power failures. If you wish to change the date or time, or if the LoT™ Display shows the message 'SET DATE + TIME' just follow the instructions below. Otherwise, go to **Step 2**.

- a. Move the slider to the **DAY/TIME** position. The message 'SET DATE + TIME' will show briefly on the screen, followed by 'SET THE DAY', and the day of the month will now be flashing to indicate it can be changed.



- b. To change the day of the month, press the  $\odot$   $+$  or  $-$  buttons until the correct day is shown. Each press of the button will change the date by one day. As soon as a change has been made, the message 'IS DAY OK?' will be displayed. Once the correct day is reached, press the green  $\text{OK}$  button to confirm, and move to the next step. If you do not need to make a change, just press the  $\text{OK}$  button immediately and this will move you to the next step.
- c. The month digits will now be flashing and 'SET THE MONTH' will be displayed. To change the month, press the  $\odot$   $+$  or  $-$  buttons until the correct month is shown. The message 'IS MONTH OK?' will be displayed. Press the green  $\text{OK}$  button to confirm the month is correct, and move to the next step.

## GETTING STARTED WITH YOUR ST9100C

- d. The year digits will now be flashing and 'SET THE YEAR' will be displayed. To change the year, press the  $\ominus$   $\oplus$  or  $\ominus$  buttons until the correct year is shown. The message 'IS YEAR OK?' will be displayed. Press the green **OK** button to confirm the year is correct. If you have made a change, and the date is a valid date, the message 'DATE SAVED' will show, and you can move to the next step. If the date you set was not valid, for example 31 September, the message 'INVALID' will show and you will be returned to the start of the date setting operation.
- e. The time will now be flashing and the message 'SET THE TIME' will be displayed. To change the time, press the  $\ominus$   $\oplus$  or  $\ominus$  buttons until the correct time is shown. Each press of the button will change the time by one minute. Holding the button down for more than a few seconds will change the time slowly at first, then quickly. The message 'IS TIME OK?' will be displayed. Press the green **OK** button to confirm the time is correct. If you have made a change, the message 'TIME SAVED' will show, followed quickly by 'DATE + TIME COMPLETE'.
- f. Move the slider to the **RUN** position, to complete setting the date and time.

**Note:** if the slider is moved at any time before the date and time have been set correctly, the message 'DATE UNCHANGED' will be displayed briefly, and your changes will not be saved.

### Step 2: Running a Built-in Programme

With the date and time correct, your ST9100C Timer will now be operating to the built-in programmes. These have been designed to provide heating at typical times throughout the day, but if you want to customise the settings, please see the next section '**PROGRAMMING YOUR ST9100C**' (page 6).

## PROGRAMMING YOUR ST9100C

### The Built-in Programmes

The built-in programmes give you a starting point that you can personalise to your own requirements. Your Installer should have selected one and ticked the box alongside it. If there is no tick, the product normally leaves the factory with Profile A installed, but it is a simple matter to select one of the other profiles (see **Changing the Installer Parameters**, page 12).

**Built-in Programme (Profile A)**

	ON 1	OFF 1	ON 2	OFF 2	ON 3	OFF 3
<b>Monday to Friday</b>	6:30am	8:30am	12:00pm	1:00pm	4:30pm	10:30pm
<b>Saturday &amp; Sunday</b>	6:30am	9:30am	12:00pm	1:00pm	4:30pm	11:00pm

**Built-in Programme (Profile b)**

	ON 1	OFF 1	ON 2	OFF 2	ON 3	OFF 3
<b>Monday to Friday</b>	6:30am	9:30am	12:00pm	1:00pm	4:30pm	11:00pm
<b>Saturday &amp; Sunday</b>	6:30am	9:30am	12:00pm	1:00pm	4:30pm	11:00pm

**Built-in Programme (Profile C)**

	ON 1	OFF 1	ON 2	OFF 2	ON 3	OFF 3
<b>Monday to Friday</b>	6:30am	7:30am	12:00pm	12:00pm	5:00pm	10:00pm
<b>Saturday &amp; Sunday</b>	8:30am	9:30am	12:00pm	1:00pm	5:30pm	10:30pm

### Your Personal Programme

The table below has been left blank for you to record your own personal programme.

	ON 1	OFF 1	ON 2	OFF 2	ON 3	OFF 3
<b>Monday</b>						
<b>Tuesday</b>						
<b>Wednesday</b>						
<b>Thursday</b>						
<b>Friday</b>						
<b>Saturday</b>						
<b>Sunday</b>						

## Reviewing the Programme Times

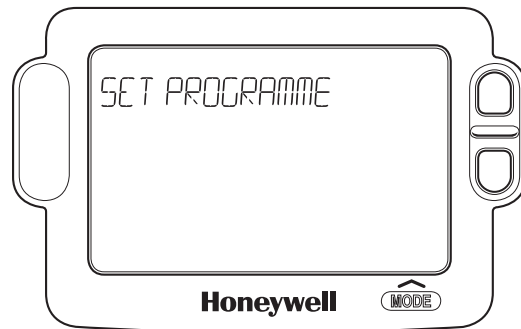
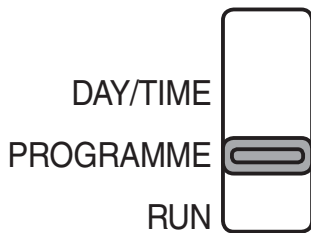
To review your programme, move the slider to the **PROGRAMME** position.

To review the programme times, press the **OK** button repeatedly. The appropriate **ON** and **OFF** markers will be displayed to show you which time is being reviewed. Any of these times can be adjusted by using the **+** or **-** buttons, and then confirmed using the **OK** button. Remember to return the slider to the **RUN** position after reviewing is complete.

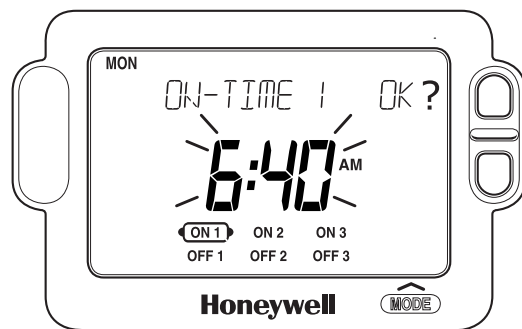
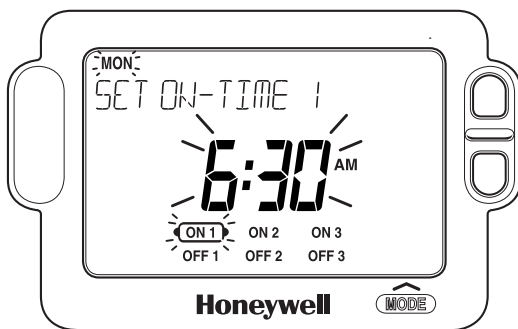
## Modifying the Programme

The programme has three pairs of **ON/OFF** switching times per day. Each time can be set between 3.00 am and 2.50 am (on the next day) to allow you to programme the system to stay on past midnight, if required.

- a. Move the slider to the **PROGRAMME** position. 'SET PROGRAMME' will show briefly to verify this action.



- b. 'SET ON-TIME 1' will then be displayed and the time setting for the first **ON 1** time for **MONDAY** will now be flashing to indicate it can be changed. If you do not wish to change the time, press the green **OK** button and move to the next step. If you do wish to make a change, use the **+** or **-** buttons to change the first **ON 1** time. Each press of the button will change the time by 10 minutes. As soon as the time has been changed, the message 'ON-TIME 1 OK?' will be displayed. Press the green **OK** button to confirm the time is correct and move to the next step. 'SAVED' will be displayed for a moment to confirm that any change has been saved to memory.





## PROGRAMMING YOUR ST9100C

**Note:** When pressing the **+** button the next **ON** or **OFF** marker may start to flash. This indicates you have tried to set a time equal to one of the next programme times already in the memory. Similarly, when pressing the **-** button the previous **ON** or **OFF** marker may start to flash. This indicates you have tried to set a time equal to one of the previous programme times. If this happens the ST9100C simply moves both times together as long as you continue to press the **+** or **-** buttons. Follow the procedure in '**Reviewing the Programme Times**' (page 7) to check and adjust these times as necessary.

- c. 'SET OFF-TIME 1' will be displayed and the first **OFF 1** time will now be flashing. If you do not wish to change the time, press the green **OK** button and move to the next step. Otherwise, use the **+** or **-** buttons to change the time. Press the green **OK** button to confirm the time is correct and move to the next step. 'SAVED' will be displayed for a moment to confirm that any change has been saved to memory.
- d. The remaining **ON** and **OFF** times (ON 2, OFF 2, ON 3, OFF 3) can be set by using the **+** or **-** buttons to change the time, and the green **OK** button to confirm the time is correct and move to the next step. If you do not wish to change the time, just press the green **OK** button to move directly to the next **ON/OFF** time without making any changes.
- e. After setting or reviewing the last off time, **OFF 3**, the message 'COMPLETE' will be displayed to indicate the times for Monday have been set.

You now have a choice of how to set the programme for the next day:

### **Copying one day's Programme to another day (example Monday to Tuesday):**

- f. Whilst the day is showing Monday, Press the **COPY DAY** button. The message 'COPY MON TO TUESDAY OK?' will be displayed and the letters **TUE** will flash to indicate the programme for Monday can be copied to Tuesday.
- g. To select a different day to copy to, press the **NEXT DAY** button to cycle through the days. With each press of the **NEXT DAY** button the message will change to indicate the new day you are copying to.

- h.** When the required day is indicated, press the green **OK** button to confirm, and the message 'MON COPIED' will be displayed for a moment. The day into which Mondays programme has been copied is now available to have its programme edited.

**Note:** Once a day's programme has been confirmed in this way, it now becomes the day whose programme is copied if the **COPY DAY** button is pressed again.

**OR**

### **Programming a Different Day:**

- i.** Press the **NEXT DAY** button to select the next day, which is displayed along the top of the screen. The programme for that day can then be adjusted by following steps **b** – **e** above. Programmes for the remaining days can be set in the same way, using the **NEXT DAY** button to move to the next day.

### **Exiting Programming Mode:**

To exit programming mode, move the slider to the **RUN** position. This can be done at any time during the programming process, and any changes made and confirmed with the **OK** button will have been saved.

**Note:** If the unit is left in programming mode for more than 10 minutes without the slider being moved or any buttons pressed, the message 'MOVE SLIDER' will be displayed. Press a button to finish programming, or move the slider to the **RUN** position.

### **Disabling / Enabling Time Periods**

To disable any of the time periods **ON 1** to **OFF 1**, **ON 2** to **OFF 2**, or **ON 3** to **OFF 3**, simply set the **ON** time and its paired **OFF** time to the same time, and the programme will just ignore them.

To re-enable the time period, simply set the two **ON** and **OFF** times to be different.

## OPERATING YOUR ST9100C

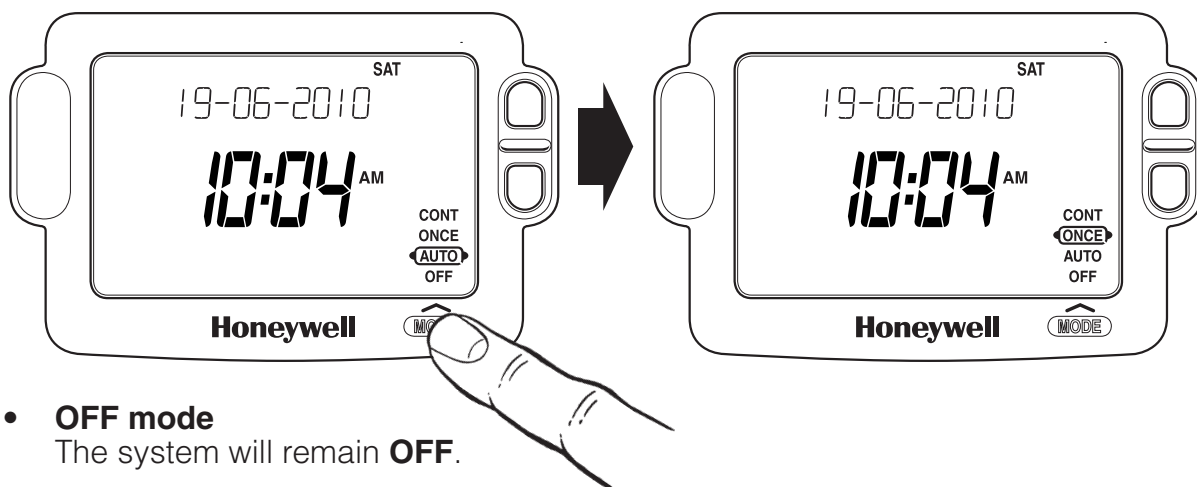
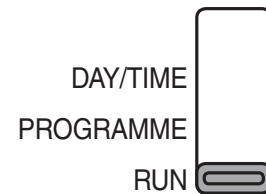
### Choosing the Operating Mode

The operating mode may only be changed when the slider is set to the **RUN** position.

A green **INDICATOR LAMP** shows when the system is switched **ON**.

A **MODE** button is provided to select the Operating Mode and therefore how the system is controlled.

There are four possible **Operating Modes**; these are **OFF**, **AUTO**, **ONCE**, **CONT**. Pressing the **MODE** button scrolls round these modes in sequence, and the display indicates which mode is currently active.



- **OFF mode**  
The system will remain **OFF**.
- **AUTO (Automatic) mode**  
The system will be switched **ON** and **OFF** according to the programme.
- **ONCE mode**  
The system will come **ON** at the first programmed **ON** time, and go **OFF** at the last programmed **OFF** time.
- **CONT (Continuous) mode**  
The system will remain **ON** continuously.

### Overriding the Operation Without Changing the Programmes

In **AUTO** and **ONCE** operating modes, the **OVERRIDE** button switches the system **ON** or **OFF** without altering the programme.

When the indicator lamp is **ON**, pressing the **OVERRIDE** button switches the system **OFF** until the next programmed **ON** time.

When the indicator lamp is **OFF**, pressing the **OVERRIDE** button switches the system **ON** until the next programmed **OFF** time.

The LoT™ Display will provide you with information about the override.

## The Extra Hour Function

The **EXTRA HOUR** button allows you to switch the system **ON** for up to 3 extra hours without altering the programme. Pressing the button once will give one extra hour. The LoT™ Display will display the message '+ 1 HOUR', to confirm the button has been pressed.

When the green **INDICATOR LAMP** is **OFF**, pressing the **EXTRA HOUR** button switches the system **ON** for just one hour.

When the green **INDICATOR LAMP** is **ON**, pressing the **EXTRA HOUR** button extends the programmed **ON** period by one hour.

Further presses of the **EXTRA HOUR** button will increase the extra hour period by one hour for each button press, up to a maximum of 3 hours. The LoT™ Display will continue to provide information on the extra hour status.

To cancel the extra hours, just keep pressing the **EXTRA HOUR** button until the 'CANCELLED' message appears on the LoT™ Display.

## The Holiday Function

The Holiday function allows you to switch off your system for a specified number of days (from 1-99 days). This lets you save energy and related costs when you are away from home, but resumes normal operation on the day of your return.

### To set the Holiday function:


- a. Ensure the slider is in the **RUN** position, then press the **HOLIDAY** button once. The message 'SET HOLIDAY' will appear briefly, followed by 'SET DAYS AWAY'.
- b. Use the  $\ominus$   $\oplus$  or  $\ominus$  buttons to set the number of days you will be away. The display will show the number of days, and this number will be flashing to indicate it can be changed. The day of the week will also keep changing to show the day you return.
- c. If you have made a change to the number of days, the message 'DAYS AWAY OK ?' will appear. Press the green **OK** button to confirm your selection.
- d. The message 'SAVED' will be displayed for a few seconds, followed by the date you return, to enable you to check you have programmed the holiday function correctly.
- e. During the holiday period, the LoT™ Display will show the message 'ON HOLIDAY' and the display will count down the number of days till you return.

### To cancel the Holiday function:

- f. To cancel the Holiday function, just press the **HOLIDAY** button again. The LoT™ Display will show 'CANCELLED' and the unit will return to normal operation.

**Note:** while setting the Holiday function, if there is a gap of more than 1 minute between button presses, the function will cancel itself automatically and return to normal operation.

## Changing from AM/PM Time Display to the 24 Hour Clock

Your ST9100C can operate on the 12 hour AM/PM or 24 hour clock formats. To change the format, ensure the slider is in the **RUN** position then press and hold the  **+** and **-** buttons together for about 2 seconds. Ignore the 'NOT VALID' message that will appear briefly. All the displayed times will be automatically changed to the new format.

Repeating this procedure will change the clock display back to the original format.

## Changing the Installer Parameters

The ST9100C has a special Installer Mode where some features can be adjusted to suit your lifestyle or preferences – these are called Installer Parameters, and are listed in the table below, along with a description of the options that are possible.

INSTALLER PARAMETER	Parameter Number	Default Value	Options	Description
24hr or am/pm clock display.	1	12	12, 24	12 = am/pm display, 24 = 24hr display
Configure backlight operation.	2	2	0, 1, 2	0 = off, 1 = on if button pressed, 2 = on continuously
Enable/disable auto time change.	3	1	0, 1	0 = disabled, 1 = enabled
1-day or 5/2-day or 7-day operation.	4	7	1, 5, 7	1 = 1-day operation, 5 = 5/2-day operation, 7 = 7-day operation
Number of ON/OFFs per day.	5	3	2, 3	2 = 2 on/off per day, 3 = 3 on/off per day
Select default time programme.	6	A	A, b, C	A = standard, b = at home, C = economy
Reset all parameters	8	1	0, 1	0 = do not reset 1 = default parameters

**To Enter Installer Mode:**

- a. Ensure the slider is in the **RUN** position, then press and hold **OK** and **-** buttons together for 8 seconds. Ignore the 'NOT VALID' message that is displayed for a few seconds. The message 'SET UP MENU' will show briefly, followed by 'SET INSTALLER OK ?'
- b. Press the **OK** button to take you into the Installer Mode Parameter Menu.
- c. Parameter 1 is now available to change. This is to allow you to change the clock format from 12 hour AM/PM to 24 hour. At every step, the LoT™ Display will inform you what the parameter means and what option you have selected. The parameter number is shown on the display separated by a colon from the parameter value.
- d. You can change the parameter value by pressing the **↻** **+** or **-** buttons. At this point the description in the LoT™ Display will change and the parameter value will flash. If you press **OK** the value will stop flashing and be saved for use.
- e. Press **OK** to move to the next parameter available for editing.
- f. Keep pressing **OK** to step around the list of parameters, and use **↻** **+** or **-** buttons to change the parameter value.
- g. Any parameter changes that have been confirmed with the **OK** button will be saved and used.

**To Exit Installer Mode:**

- h. You can exit Installer Mode at any time by moving the slider to the next position and then back again to **RUN**.

**Note:** Installer Mode will exit automatically after 10 minutes if the slider is not moved.

### How do I set the time only, if the ST9100C clock is not correct?

Your ST9100C contains a very accurate digital clock that is factory pre-set. Should you ever need to change the time, just follow this procedure:

- a. Move the slider to the **DAY/TIME** position.
- b. Keep pressing the green **OK** button until the message 'SET THE TIME' is displayed. To change the time, press the **+** or **-** buttons until the correct time is shown. The message 'IS TIME OK?' will be displayed. Press the green **OK** button to confirm the time is correct. If you have made a change, the message 'TIME SAVED' will show, followed quickly by 'DATE + TIME COMPLETE'.
- c. Move the slider to the **RUN** position, to complete changing the time.

### What do I do when the clocks go back in October and forward in March?

Your ST9100C is factory-set to adjust the clock automatically at the correct dates, so you should never need to adjust the clock forward or backwards yourself. It is possible to disable this particular feature, as described in the section '**Changing the Installer Parameters**' (page 12). You may also check the section '**Configuration & Service Data**' (page 18) to see how your Installer has configured your product.

### What should I do if I get 'lost' while programming the ST9100C?

The LoT™ Display on ST9100C will provide you with help and tips to work through the programming. Should you ever get 'lost', the simplest thing to do is to move the slider to the **RUN** position, and then move it back to the appropriate programming position where you got lost. At this point just follow the instructions again.

### What happens if there is a power failure?

In the event of a mains power failure, the ST9100C display will go blank, the indicator lamp will go out, and the control output will switch off. The real time will be constantly maintained by means of the built-in battery backup, ready to power back up as if nothing had happened when the mains power is restored. In addition, all programmes and settings are stored in a special memory (called NV memory) which requires no power to maintain information, and so will be retained indefinitely.

Should the correct time and date ever be lost, for whatever reason, the message 'SET DATE + TIME' will be displayed whilst the slider is in the **RUN** position. In this case, simply follow the procedure described under '**Step 1: Setting the Date & Time**' (page 4). It should not be necessary to make any changes to your programmes.

## Troubleshooting Guide

This is a quick guide to help you diagnose and cope with possible problems with ST9100C. For further assistance, please contact your Installer.

Symptom	Possible Cause	Remedy
ST9100C has a blank LCD display	No power to the system	Check that there is power to the system
	Fault in ST9100C	Call Installer
ST9100C indicates that the system is <b>ON</b> , but radiators are cold and/or taps are running with cold water.	Temperature controls are switched off or set too low	Check that the temperature controls in the system are set to appropriate levels
	Boiler or other system controls have malfunctioned	Call Installer
ST9100C shows the message 'INTERNAL FAULT'	Fault in ST9100C	Call Installer

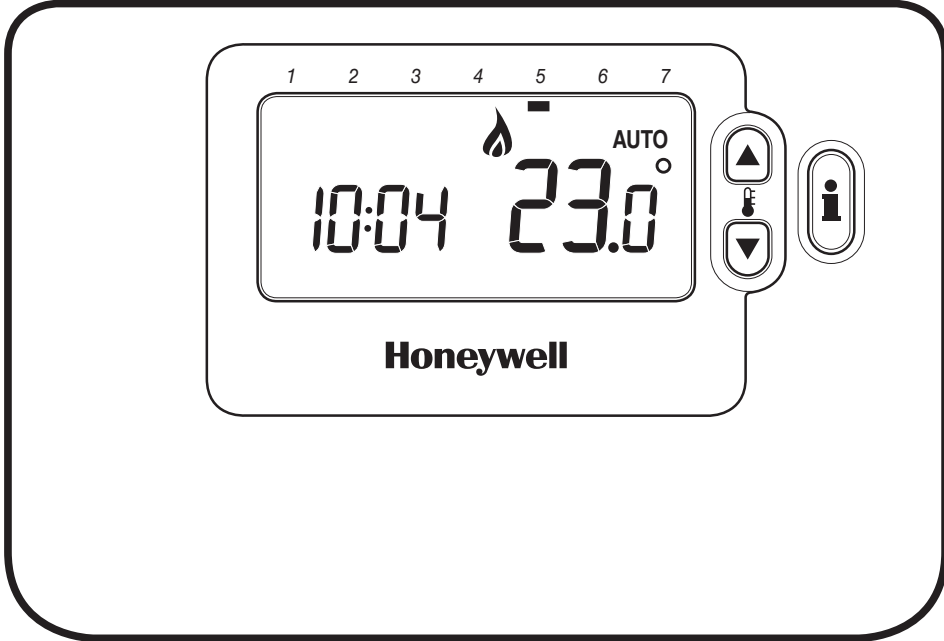


## CONFIGURATION & SERVICE DATA

### Configuration Data (to be completed by Installer)

The table below is for the Installer to complete to indicate how your ST9100C has been configured.

Configurable Features	Options	Installer Configured (tick appropriate box)
24hr or am/pm clock display	am/pm display	<input type="checkbox"/>
	24hr display	<input type="checkbox"/>
Display backlight operation	Off	<input type="checkbox"/>
	On if button pressed	<input type="checkbox"/>
	On continuously	<input type="checkbox"/>
Automatic time change	Enabled	<input type="checkbox"/>
	Disabled	<input type="checkbox"/>
1-day or 5/2-day or 7-day operation	1-day operation	<input type="checkbox"/>
	5/2-day operation	<input type="checkbox"/>
	7-day operation	<input type="checkbox"/>
Number of ON/OFFs per day	2 on/offers per day	<input type="checkbox"/>
	3 on/offers per day	<input type="checkbox"/>
Default programme	A = standard	<input type="checkbox"/>
	b = at home	<input type="checkbox"/>
	C = economy	<input type="checkbox"/>



**CM701** .....2-6

**CM707** .....7-11

**USER GUIDE**

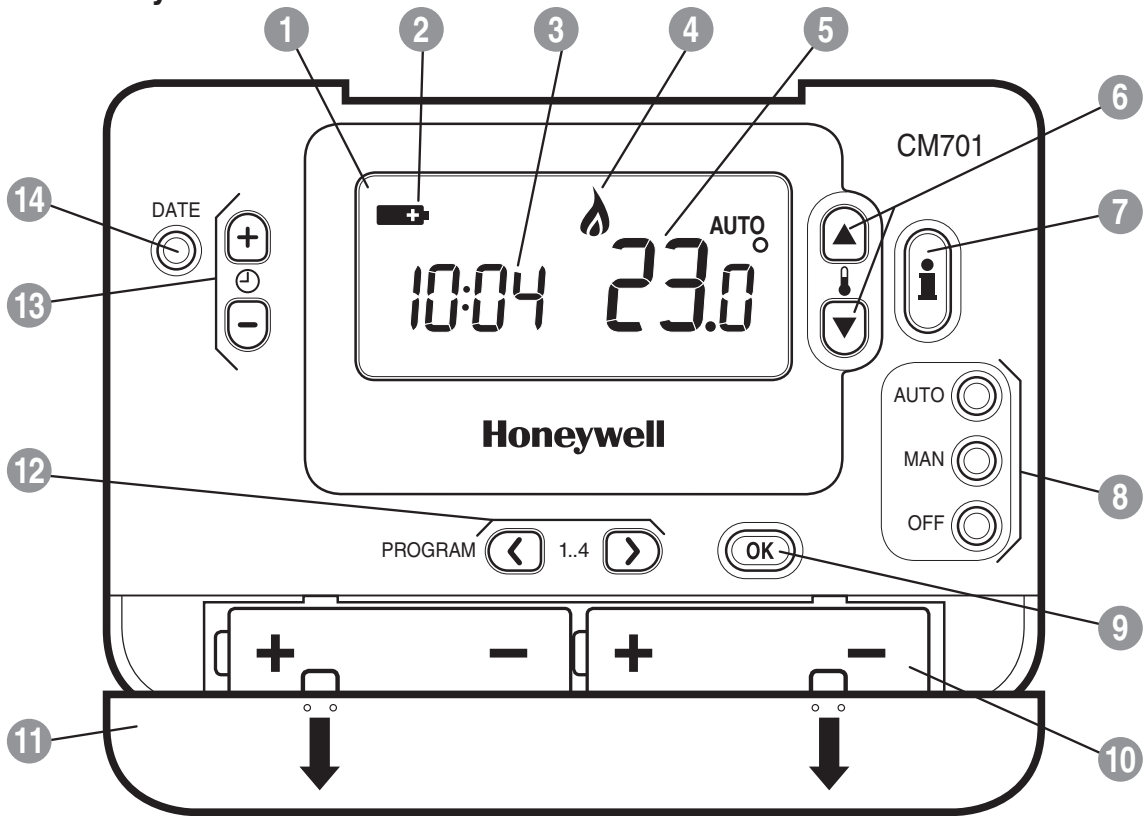
**Description**

The Honeywell CM701 is a programmable room thermostat designed to control your heating system efficiently, providing comfortable temperatures when you are at home and energy savings when you are away. The following instructions explain how to program and use the thermostat to provide the most home comfort at the least cost.

**Features**

- Ergonomic user interface featuring an 'OK-button'.
- Large LCD (Liquid Crystal Display) Screen with backlight.
- 4 independent temperature levels (from 5°C to 35°C).
- Automatic Summer/Winter Time Change.
- Optimum Start to achieve the right temperature at the right time.
- Built-in Memory holds the user program indefinitely.

**Controls Layout**



- |                         |                              |                       |
|-------------------------|------------------------------|-----------------------|
| ① LCD Screen            | ⑥ Temperature Change Buttons | ⑪ Battery Cover       |
| ② Battery Low Indicator | ⑦ Temperature Enquiry Button | ⑫ Program Buttons     |
| ③ Time Display          | ⑧ Operating Mode Buttons     | ⑬ Time Change Buttons |
| ④ Burner On Indicator   | ⑨ Green OK Button            | ⑭ Set Date Button     |
| ⑤ Temperature Display   | ⑩ Battery Compartment        |                       |

**This section shows you how to setup and run the thermostat in 3 simple steps:**

### STEP 1: Installing the Batteries

**Note:** Please follow the instructions in this section only if the thermostat screen is blank (no symbols or digits are displayed). If the room temperature is already displayed move on to Step 2: Setting the Date and Time.

#### To install the Batteries:

- Lift up the front cover of the thermostat to reveal the battery cover and product controls.
- Remove the battery cover by pressing down and sliding out.
- Insert the 2 x AA LR6 Alkaline Batteries supplied with the thermostat, ensuring the correct orientation (see '**Controls Layout**' on page 2).
- After a short pause the thermostat will display information on the screen and is now ready for use.
- Replace the battery cover by sliding it firmly back into the front of the thermostat.

### STEP 2: Setting the Date and Time

#### To set the Date and Time:

- Press the **DATE** button to begin setting the date. When you set the date for the first time after the batteries are inserted, the display will show:



Press the  $\ominus$   $\oplus$  or  $\ominus$  buttons to set the current day of the month (e.g. *d 01* = 1<sup>st</sup> day of the month) then press the green **OK** button to confirm.

- Press the  $\ominus$   $\oplus$  or  $\ominus$  buttons to set the current month of the year (e.g. *m 01* = January) then press the green **OK** button to confirm.



- Press the  $\ominus$   $\oplus$  or  $\ominus$  buttons to set the current year (e.g. *yr 06* = 2006) then press the green **OK** button to confirm.

The date is now stored.



- Use the  $\ominus$   $\oplus$  or  $\ominus$  buttons to set the correct time then press the green **OK** button to confirm. Each press of the buttons will change the time by one minute and holding them down will change the time slowly at first and get progressively quicker.



**Note:** If this mode is entered accidentally then press the **AUTO**, **MAN** or **OFF** buttons to exit.

### STEP 3: Running the Built-in Heating Program

The thermostat is now ready for operation. Press the **AUTO** button and the built-in heating program will start running. **Note:** The built-in heating program has been designed to provide normal comfort requirements, but if you want to customise the settings please see the next section '**Programming the CM701**'.

### The Built-in Heating Program

The built-in heating program has 4 temperature level changes that can be set between 3.00am and 2.50am the following day - allowing you to maintain the evening temperature after midnight. Each temperature level can be set between 5°C and 35°C, and adjusted in 0.5°C increments. The factory default program for heating is as follows.

Period	1	2	3	4
Time	6:30	8:00	18:00	22:30
Temperature	21°C	18°C	21°C	16°C

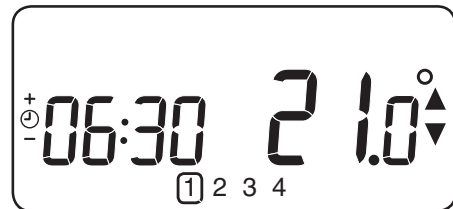
### Reviewing the Heating Program

To review or edit the heating program use the **PROGRAM** (◀) or (▶) buttons to navigate between the 4 individual programming periods.

### Modifying the Heating Program

#### To change the heating program:

a. Press either of the **PROGRAM** (◀) or (▶) buttons to enter the programming mode. The time / temperature settings for period (1) will be flashing as shown. The active period is highlighted by a flashing square around the numbers at the bottom of the screen.



b. To adjust the period start time use the (⊕) or (⊖) buttons, the display will stop flashing and the 'OK?' indicator will be displayed. Holding the button down will change the time quickly.

**Note:** If you are pressing the (⊕) or (⊖) buttons and the display flashes the next period, it means the next period will be pushed forward.

c. Once the required time is reached press the green (OK) button to confirm.

**Note:** If the original time setting did not require adjustment press the green (OK) button to move to step 'd'.

d. The temperature setting for period (1) will now be flashing. To adjust this press the (▲) or (▼) buttons and confirm the setting again by pressing the green (OK) button.

e. The next time and temperature period will now be active. Adjust this by repeating steps b - d above until all 4 periods are set or press the **AUTO** button to run the program as set, at any time.

### Disabling / Enabling Time Periods

The thermostat has 4 periods that can be programmed, but you may not need all of these switch points for your heating requirements. Therefore, any period from 2 to 4 can be removed from (or returned to) the heating program profile.



#### To disable or enable time periods:

a. To disable unwanted periods go to the desired period (2) to (4) using the **PROGRAM** (◀) or (▶) buttons to navigate, ensure the correct period is highlighted with the flashing square symbol. Press and hold the (i) button for at least 2 seconds and the display will indicate the period has been removed from the program.

b. To enable periods again follow the same procedure as above, navigating to the already disabled period. To enable this period again press and hold the (i) button for at least 2 seconds.


## Choosing the Operating Mode

The thermostat can operate in three different modes: Automatic, Manual or Off. To set the operating mode press either of the **AUTO**, **MAN** or **OFF** buttons. The screen indicates which mode is currently active by displaying **AUTO**, **MAN** or **OFF**.






- **AUTO (automatic)** mode sets the thermostat to follow the built-in temperature program (default or personalised). Operating the thermostat in this mode is the best way to maintain a high level of temperature comfort whilst maximising your energy savings.
- **MAN (manual)** mode sets the thermostat to act as a simple thermostat with a fixed setpoint throughout the day. The setpoint can be adjusted from 5°C to 35°C by using the  or  buttons. The thermostat will continue to maintain this temperature until another operating mode or temperature is selected.
- **OFF** mode sets the thermostat to control to a minimum temperature setting of 5°C (default) that acts as a frost protection measure for your home.

## During Normal Operation

### • Temperature Enquiry




In **AUTO**, **MAN** and **OFF** operating modes the thermostat will display the current room temperature. To review the programmed '**target**' temperature (the temperature which the thermostat is trying to maintain) press the  button. This 'target' temperature value will be displayed flashing for 5 seconds before returning to the current room temperature value.

### • Temperature Override

During normal operation (**AUTO** mode) the programmed temperature can be adjusted manually by pressing the  or  buttons or the  button. The 'target' temperature will be displayed and flash for 5 seconds - during this time the  or  buttons can be used to modify the set value.

**Note:** This temperature override is cancelled at the next programmed temperature change.

## Adjusting the Time

To adjust only the time during normal operation use the  or  buttons to adjust the time and press the green  button again to confirm any changes.

## Using the Special Features

- **Display Backlight**

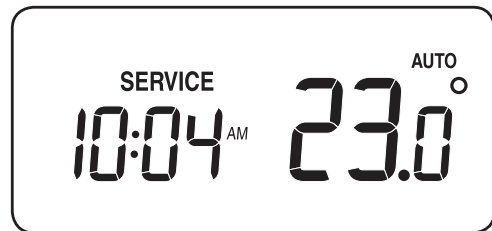
The CM701 has a backlit display that will illuminate when a button is pressed for easier viewing of the display in low light conditions.

- **SERVICE indicator**

**Note:** This option only works if activated by your installer.

The 'SERVICE' indicator is displayed at set intervals as a reminder that your heating system requires a routine check. Please call your installer to arrange a maintenance visit.

The 'SERVICE' indicator will remain on the display of the CM701 until it is either reset or disabled by your installer. The CM701 and heating system will continue to operate as normal.






- **Automatic Summer/Winter Time Change**

The CM701 has a built-in Automatic Summer/Winter Time Change feature that will automatically adjust the clock forward or backward by one hour for 'Daylight Saving Time'. This is carried out on the last Sunday of March and October each year.

- **Optimum Start**


Optimum Start is a program which ensures that the optimum temperature conditions are achieved at the required times. This is an Energy Efficiency feature that adjusts the start time of your heating system depending upon how cold it is. For example, on cold days your heating system will be started earlier to ensure that your home is warm when you get up (at the target temperature) and on warmer days the heating system will be started later to save energy. So, if the Optimum Start Feature is used, then the time / temperature settings which are entered into the thermostat should be set to when you want to be warm by and not when you want the heating system to start.

## TROUBLESHOOTING THE CM701



Symptom	Remedy
Blank Display (Power Loss).	<p>Check batteries are installed by removing the battery cover.</p> <p>Check batteries have been installed in the correct orientation.</p> <p>Replace the batteries.</p>
Display shows flashing  symbol.	<p>The batteries in the thermostat are low on power - Replace the batteries.</p>
Display shows  symbol.	<p>A fault has occurred in your heating system. Remove and re-insert the batteries.</p> <p>If the  symbol does not clear after a few minutes contact your installer.</p>
Display shows the word ' <b>SERVICE</b> '	<p>Your installer has set a scheduled maintenance alert period on your CM701 as a recommendation that your heating system should receive a routine inspection.</p> <p>Call your installer to arrange a maintenance visit.</p> <p><b>Note:</b> The CM701 and heating system will continue to operate as normal.</p>

## FAQ's

### How do I change the batteries on the thermostat when they run out?

The thermostat constantly monitors the battery power level, which typically lasts for about 2 years before needing replaced. When the power is running low a flashing  symbol will be displayed on the screen. To change the batteries follow the steps in the above section ('**STEP 1: Installing the Batteries**' on page 3), replacing the used batteries with new ones in Step c. Note: While changing the batteries your program settings will be stored but you may need to adjust the time settings to be correct.

### How do I set one temperature for the whole day?

To operate as a simple thermostat with one temperature throughout the day, select the manual operating mode by pressing the **MAN** button. Adjust the temperature by pressing the  or  buttons - this can be set anywhere from 5°C to 35°C in 0.5°C steps. The thermostat will continue to maintain this temperature until another operating mode is selected or the temperature is adjusted.



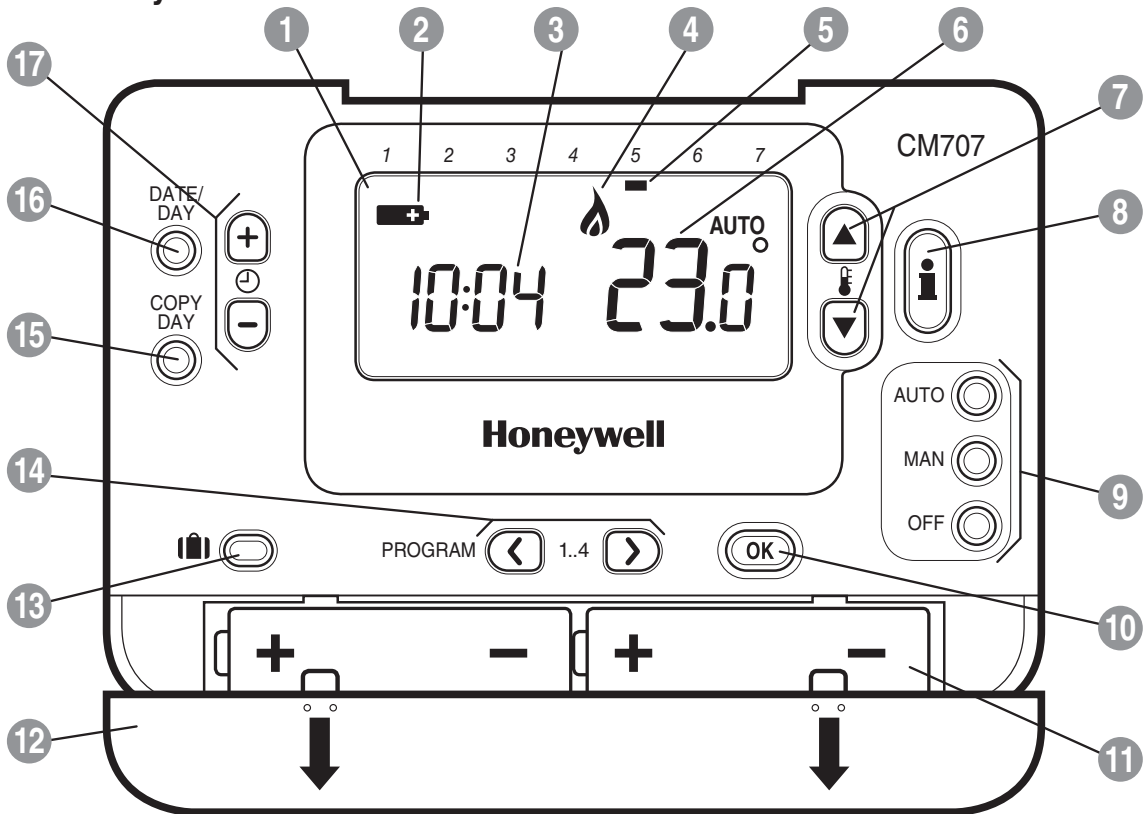
**Description**

The Honeywell CM707 is a programmable room thermostat designed to control your heating system efficiently, providing comfortable temperatures when you are at home and energy savings when you are away. The following instructions explain how to program and use the thermostat to provide the most home comfort at the least cost.

**Features**

- Ergonomic user interface featuring an 'OK-button'.
- Large LCD (Liquid Crystal Display) Screen with backlight.
- 7-day heating program to match your lifestyle, whilst maximising energy savings.
- 4 independent temperature levels per day (from 5°C to 35°C).
- Holiday button saves energy by letting you reduce the temperature for 1 to 99 days.
- Automatic Summer/Winter Time Change.
- Optimum Start to achieve the right temperature at the right time.
- Built-in Memory holds the user program indefinitely.

**Controls Layout**



- |                         |                              |                           |
|-------------------------|------------------------------|---------------------------|
| ① LCD Screen            | ⑦ Temperature Change Buttons | ⑬ Holiday Function Button |
| ② Battery Low Indicator | ⑧ Temperature Enquiry Button | ⑭ Program Buttons         |
| ③ Time Display          | ⑨ Operating Mode Buttons     | ⑮ Copy Day Button         |
| ④ Burner On Indicator   | ⑩ Green OK Button            | ⑯ Set Date/Day Button     |
| ⑤ Day Indicator         | ⑪ Battery Compartment        | ⑰ Time Change Buttons     |
| ⑥ Temperature Display   | ⑫ Battery Cover              |                           |

This section shows you how to setup and run the thermostat in 3 simple steps:

## STEP 1: Installing the Batteries

**Note:** Please follow the instructions in this section only if the thermostat screen is blank (no symbols or digits are displayed). If the room temperature is already displayed move on to **Step 2: Setting the Date and Time**.

### To install the Batteries:

- Lift up the front cover of the thermostat to reveal the battery cover and product controls.
- Remove the battery cover by pressing down and sliding out.
- Insert the 2 x AA LR6 Alkaline Batteries supplied with the thermostat, ensuring the correct orientation (see '**Controls Layout**' on page 8).
- After a short pause the thermostat will display information on the screen and is now ready for use.
- Replace the battery cover by sliding it firmly back into the front of the thermostat.

## STEP 2: Setting the Date and Time

### To set the Date and Time:

- Press the **DATE/DAY** button to begin setting the date. When you set the date for the first time after the batteries are inserted, the display will show:

Press the  $\ominus$   $\oplus$  or  $\ominus$  buttons to set the current day of the month (e.g. *d 01* = 1<sup>st</sup> day of the month) then press the green **OK** button to confirm.



- Press the  $\ominus$   $\oplus$  or  $\ominus$  buttons to set the current month of the year (e.g. *m 01* = January) then press the green **OK** button to confirm.



- Press the  $\ominus$   $\oplus$  or  $\ominus$  buttons to set the current year (e.g. *yr 06* = 2006) then press the green **OK** button to confirm.

The date is now stored and the Day Indicator will be displayed under the current day of the week (e.g. 1 = Monday, 2 = Tuesday, etc.)



- Use the  $\ominus$   $\oplus$  or  $\ominus$  buttons to set the correct time then press the green **OK** button to confirm. Each press of the buttons will change the time by one minute and holding them down will change the time slowly at first and get progressively quicker.

**Note:** If this mode is entered accidentally then press the **AUTO**, **MAN** or **OFF** buttons to exit.



## STEP 3: Running the Built-in Heating Program

The thermostat is now ready for operation. Press the **AUTO** button and the built-in heating program will start running. **Note:** The built-in heating program has been designed to provide normal comfort requirements, but if you want to customise the settings please see the next section '**Programming the CM707**'.

### The Built-in Heating Program

The built-in heating program has 4 temperature level changes per day that can be set between 3.00am and 2.50am the following day - allowing you to maintain the evening temperature after midnight. Each temperature level can be set between 5°C and 35°C, and adjusted in 0.5°C increments. The factory default program for heating is as follows.

#### Monday to Friday (Day 1 to 5)

Period	1	2	3	4
Time	6:30	8:00	18:00	22:30
Temperature	21°C	18°C	21°C	16°C

#### Saturday & Sunday (Day 6 & 7)

Period	1	2	3	4
Time	8:00	10:00	18:00	23:00
Temperature	21°C	21°C	21°C	16°C

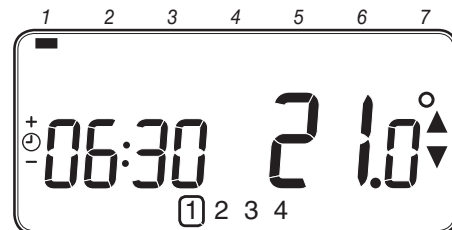
### Reviewing the Heating Program

To review or edit the heating program use the **PROGRAM** (◀) or (▶) buttons to navigate between the 4 individual programming periods for that day. Use the **DATE/DAY** button to step through each day of the week, so the complete 7 day heating program can be reviewed or edited.

### Modifying the Heating Program

#### To change the heating program:

- Press either of the **PROGRAM** (◀) or (▶) buttons to enter the programming mode. The time / temperature settings for period (1) on Monday (Day 1) will be flashing as shown. The active period is highlighted by a flashing square around the numbers at the bottom of the screen and the selected day is shown with the day indicator.



- To adjust the period start time use the (⌚) (+) or (-) buttons, the 'OK?' indicator will be displayed to confirm the change. Holding the button down will change the time quickly.

**Note:** If you are pressing the (⌚) (+) or (-) buttons and the display flashes the next period, it means the next period will be pushed forward.

- Once the required time is reached press the green (OK) button to confirm.

**Note:** If the original time setting did not require adjustment press the green (OK) button to move to step 'd'.

- The temperature setting for period (1) on Monday (Day 1) will now be flashing. To adjust this press the (⬆) (▲) or (▼) buttons and confirm the setting again by pressing the green (OK) button.
- The next time and temperature period will now be active. Adjust this by repeating steps b - d above until all 4 periods are set for Monday or press the **AUTO** button to run the program as set, at any time.

**You now have a choice of how to set the program for the next day:**

- f. i) Press the **COPY DAY** button to copy Monday's program into Tuesday. The display will go blank apart from the 'non flashing' day indicator, which indicates the day copied and the 'flashing' target day to copy the program to. To accept this day press the green **OK** button. To select a different target day press the **DATE/DAY** button until the 'flashing' day indicator is under the required day, then accept it by pressing the green **OK** button. **Note:** *Once the target day is confirmed it becomes the day that is copied if the **COPY DAY** button is pressed again.*

**OR**





- ii) Press the **DATE/DAY** button to move the day indicator to Tuesday (Day 2). The program for that day can then be adjusted by following steps **b to e**. Programs for the remaining days can be set in the same way, using the **DATE/DAY** button to move to the next day.

To exit the programming mode select the desired operating mode by pressing the **AUTO**, **MAN** or **OFF** buttons. **Note:** *To run the adjusted program select the **AUTO** mode.*

### Disabling / Enabling Time Periods




The thermostat has 4 periods each day that can be programmed, but you may not need all of these switch points for your heating requirements. Therefore, any period from 2 to 4 can be removed from (or returned to) the heating program profile.

#### To disable or enable time periods:

- a. To disable unwanted periods go to the desired period (2 to 4) using the **PROGRAM**  or  buttons to navigate, ensure the correct period is highlighted with the flashing square symbol. Press and hold the  button for at least 2 seconds and the display will indicate the period has been removed from the program.
- b. To enable periods again follow the same procedure as above, navigating to the already disabled period. To enable this period again press and hold the  button for at least 2 seconds.


### Choosing the Operating Mode

The thermostat can operate in three different modes: Automatic, Manual or Off. To set the operating mode press either of the **AUTO**, **MAN** or **OFF** buttons. The screen indicates which mode is currently active by displaying **AUTO**, **MAN** or **OFF**.






- **AUTO (automatic)** mode sets the thermostat to follow the built-in temperature program (default or personalised). Operating the thermostat in this mode is the best way to maintain a high level of temperature comfort whilst maximising your energy savings.
- **MAN (manual)** mode sets the thermostat to act as a simple thermostat with a fixed setpoint throughout the day. The setpoint can be adjusted from 5°C to 35°C by using the   or  buttons. The thermostat will continue to maintain this temperature until another operating mode or temperature is selected.
- **OFF** mode sets the thermostat to control to a minimum temperature setting of 5°C (default) that acts as a frost protection measure for your home.

## During Normal Operation

### • Temperature Enquiry





In **AUTO**, **MAN** and **OFF** operating modes the thermostat will display the current room temperature. To review the programmed '**target**' temperature (the temperature which the thermostat is trying to maintain) press the  button. This 'target' temperature value will be displayed flashing for 5 seconds before returning to the current room temperature value.

### • Temperature Override

During normal operation (**AUTO** mode) the programmed temperature can be adjusted manually by pressing the  or  buttons or the  button. The 'target' temperature will be displayed and flash for 5 seconds - during this time the  or  buttons can be used to modify the set value.

**Note:** This temperature override is cancelled at the next programmed temperature change.

## Adjusting the Time










To adjust only the time during normal operation use the   or  buttons to adjust the time and press the green  button again to confirm any changes.


## Using the Special Functions

### • HOLIDAY Function

The holiday function allows you to set a constant temperature (default = 10°C) for a specified number of days (from 1 - 99 days). This lets you save energy and related costs when you are away from home, but resumes normal operation on the day of your return.

#### To set the Holiday function:

- a. Ensure the thermostat is running in **AUTO** or **MAN** operating modes.
- b. Press the holiday  button to display the holiday days counter and temperature setting, along with the holiday indicator .
- c. Press the   or  time buttons to set the holiday time (1 - 99 days) and press the green  button to confirm.
- d. Press the  or  buttons to set the holiday temperature (5°C - 35°C) and press the green  button to confirm.

The thermostat will now control to the new temperature for the set number of days that your home is vacant. At midnight the holiday counter will be reduced by one until the selected number of days have passed. The thermostat will then return to normal operation as set by the **MAN** or **AUTO** mode. To cancel the HOLIDAY function or to exit the function at any time press the  button a second time.

## Using the Special Features

- **Display Backlight**

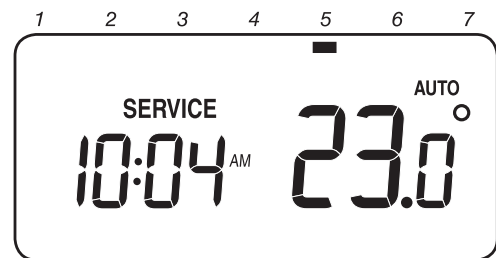
The CM707 has a backlit display that will illuminate when a button is pressed for easier viewing of the display in low light conditions.

- **SERVICE indicator (optional)**

**Note:** This option only works if activated by your installer.

The 'SERVICE' indicator is displayed at set intervals as a reminder that your heating system requires a routine check. Please call your installer to arrange a maintenance visit.

The 'SERVICE' indicator will remain on the display of the CM707 until it is either reset or disabled by your installer. The CM707 and heating system will continue to operate as normal.






- **Automatic Summer/Winter Time Change**

The CM707 has a built-in Automatic Summer/Winter Time Change feature that will automatically adjust the clock forward or backward by one hour for 'Daylight Saving Time'. This is carried out on the last Sunday of March and October each year.

- **Optimum Start**


Optimum Start is a program which ensures that the optimum temperature conditions are achieved at the required times. This is an Energy Efficiency feature that adjusts the start time of your heating system depending upon how cold it is. For example, on cold days your heating system will be started earlier to ensure that your home is warm when you get up (at the target temperature) and on warmer days the heating system will be started later to save energy. So, if the Optimum Start Feature is used, then the time / temperature settings which are entered into the thermostat should be set to when you want to be warm by and not when you want the heating system to start.

## TROUBLESHOOTING THE CM707



Symptom	Remedy
Blank Display (Power Loss).	<p>Check batteries are installed by removing the battery cover.</p> <p>Check batteries have been installed in the correct orientation.</p> <p>Replace the batteries.</p>
Display shows flashing  symbol.	<p>The batteries in the thermostat are low on power - Replace the batteries.</p>
Display shows  symbol.	<p>A fault has occurred in your heating system. Remove and re-insert the batteries.</p> <p>If the  symbol does not clear after a few minutes contact your installer.</p>
Display shows the word ' <b>SERVICE</b> '	<p>Your installer has set a scheduled maintenance alert period on your CM707 as a recommendation that your heating system should receive a routine inspection.</p> <p>Call your installer to arrange a maintenance visit.</p> <p><b>Note:</b> <i>The CM707 and heating system will continue to operate as normal.</i></p>

## FAQ's

### How do I change the batteries on the thermostat when they run out?

The thermostat constantly monitors the battery power level, which typically lasts for about 2 years before needing replaced. When the power is running low a flashing  symbol will be displayed on the screen. To change the batteries follow the steps in the above section ('**STEP 1: Installing the Batteries**' on page 3), replacing the used batteries with new ones in Step c. Note: While changing the batteries your program settings will be stored but you may need to adjust the time settings to be correct.

### How do I set one temperature for the whole day?

To operate as a simple thermostat with one temperature throughout the day, select the manual operating mode by pressing the **MAN** button. Adjust the temperature by pressing the  or  buttons - this can be set anywhere from 5°C to 35°C in 0.5°C steps. The thermostat will continue to maintain this temperature until another operating mode is selected or the temperature is adjusted.

# USERS GUIDE

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## LOGIC Heat 12, 15, 18, 24, 30

For installation guide see reverse of book



When replacing any part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by Ideal.



# FOR ANY QUERIES PLEASE RING THE IDEAL CONSUMER HELPLINE : 01482 498660

## NOTE. BOILER RESET PROCEDURE -

To reset boiler, turn mode control knob to reset position and immediately turn knob back to required setting.

## Introduction

The **Logic Heat** is a wall mounted, room sealed, condensing heating only boiler, featuring full sequence automatic spark ignition and fan assisted combustion.

Due to the high efficiency of the boiler, condensate is produced from the flue gases and this is drained to a suitable disposal point through a plastic waste pipe at the base of the boiler. A condensate 'plume' will also be visible at the flue terminal.

## Safety

### Current Gas Safety (Installation & Use)

#### Regulations or rules in force.

In your own interest, and that of safety, it is the law that this boiler must be installed by a Gas Safe Registered Engineer, in accordance with the above regulations.

In IE, the installation must be carried out by a Registered Gas Installer (RGII) and installed in accordance with the current edition of I.S. 813 "Domestic Gas Installations", the current Building Regulations and reference should be made to the current ETCI rules for electrical installation.

*It is essential that the instructions in this booklet are strictly followed, for safe and economical operation of the boiler.*

## Electricity Supply

**This appliance must be earthed.**

**Supply: 230 V ~ 50 Hz. The fusing should be 3A.**

## Important Notes

- This appliance must not be operated without the casing correctly fitted and forming an adequate seal.
- If the boiler is installed in a compartment then the compartment MUST NOT be used for storage purposes.
- If it is known or suspected that a fault exists on the boiler then it MUST NOT BE USED until the fault has been corrected by a Gas Safe Registered Engineer or in IE a Registered Gas Installer (RGII).
- Under NO circumstances should any of the sealed components on this appliance be used incorrectly or tampered with.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instructions concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

In cases of repeated or continuous shutdown a Gas Safe Registered Engineer or in IE a Registered Gas Installer (RGII) should be called to investigate and rectify the condition causing this and carry out an operational test. Only the manufacturers original parts should be used for replacement.

## Minimum Clearances

Clearances of **100mm (4")** above, **100mm (4")** below, **2.5mm (1/8")** at the sides and **450mm (17 3/4")** at the front of the boiler casing must be allowed for servicing.

### Bottom clearance

Bottom clearance after installation can be reduced to 5mm.

This must be obtained with an easily removable panel, to enable the consumer to view the system pressure gauge, and to provide the 100mm clearance required for servicing.

## To Light the Boiler. Refer to Frame 1

If a programmer is fitted refer to separate instructions for the programmer before continuing.

1. CHECK THAT THE ELECTRICITY SUPPLY TO BOILER IS OFF.
2. Set the mode control knob (B) to 'Off'.
3. Set the Heating temperature control (A) to 'max'.
4. Switch ON electricity to the boiler and check that all external controls, e.g. programmer, room thermostat and cylinder thermostat, are ON.
5. Set the mode control knob to ON.

The boiler will commence the ignition sequence supplying heat to the central heating, if required.

**Note.** In normal operation the boiler status display (C) will show codes:

- D** Standby - no demand for heat.
- E** Heat being supplied.
- F** Boiler frost protection - boiler will fire if temperature is below 5 degrees C.

During normal operation the burner on indicator (D) will remain illuminated when the burner is lit.

Note: If the boiler fails to light after five attempts the fault code L-2 will be displayed.

## RESET PROCEDURE

To reset boiler, turn the mode control knob (B) to reset position and immediately turn knob back to ON. The boiler will repeat the ignition sequence. If the boiler still fails to light consult a Gas Safe Registered Engineer or in IE a Registered Gas Installer (RGII).

All Gas Safe Register installers carry a Gas Safe Register ID card, and have a registration number. Both should be recorded in the Benchmark Commissioning Checklist. You can check your installer by calling Gas Safe Register direct on 0800 4085500.

**Ideal Stelrad Group** is a member of the Benchmark scheme and fully supports the aims of the programme. Benchmark has been introduced to improve the standards of installation and commissioning of central heating systems in the UK and to encourage the regular servicing of all central heating systems to ensure safety and efficiency.

**THE BENCHMARK SERVICE INTERVAL RECORD MUST BE COMPLETED AFTER EACH SERVICE**



## Operation

### Control of Water Temperature

The boiler controls the central heating radiator temperature to a maximum of 80°C, adjustable via the temperature control (A).

The Logic Heat is a high efficiency condensing boiler which is most efficient when operating in condensing mode.

The boiler will operate in this mode if the temperature control (A) is set to the 'e' position (economy mode). This control should be set to maximum for very cold periods

### Weather Compensation

When the Weather Compensation option is fitted to the system then the CH Temperature Control (A) becomes a method of controlling room temperature. Turn the knob clockwise to increase room temperature and anti-clockwise to decrease room temperature. Once the desired setting has been achieved, leave the knob in this position and the system will automatically achieve the desired room temperature for all outside weather conditions.

### To Shut Down the Boiler

Set the mode control knob to OFF.

### To Relight the Boiler

Repeat the procedure detailed in 'To light the boiler'.

### Frost Protection

If no system frost protection is provided and frost is likely during a short absence from home, leave the heating controls (if fitted) at a reduced temperature setting. For longer periods, the entire system should be drained.

If the system includes a frost thermostat then, during cold weather, the boiler should be turned OFF at the time switch (if fitted) ONLY. The mains supply should be left switched ON, with the boiler thermostat left in the normal running position.

### Boiler Overheat Protection

The boiler controls will shut down the boiler in the event of overheating. Should this occur, a fault code L-1 will be displayed. Refer to fault chart.

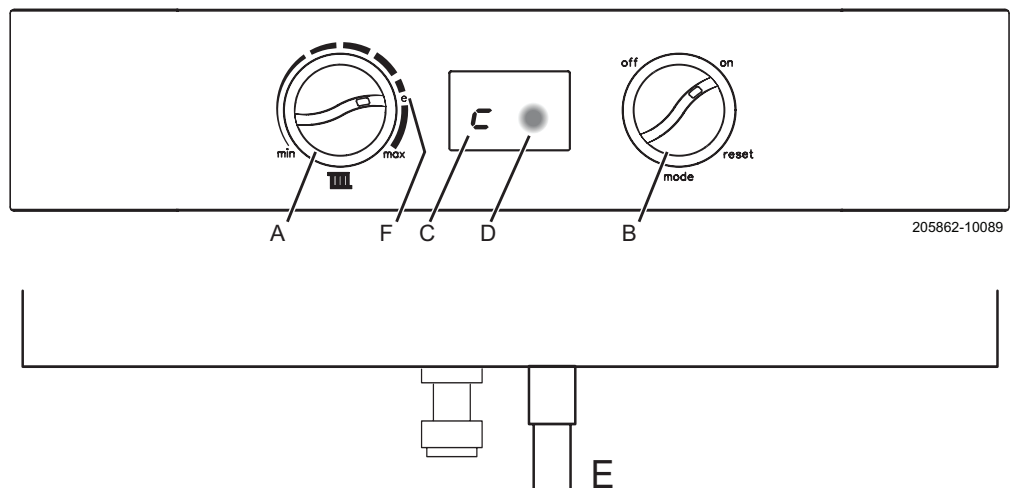
### Flame Failure

Should this occur a fault code L-2 will be displayed. Refer to fault chart.

## 1 BOILER CONTROLS

### Legend

- A. Temperature Control
- B. Mode Control
- C. Boiler Status
- D. Burner 'on' Indicator
- E. Condensate Drain
- F. Economy Mode



## **Condensate Drain**

This appliance is fitted with a siphonic condensate trap system that reduces the risk of the appliance condensate from freezing. However should the condensate pipe to this appliance freeze, please follow these instructions:

- a. If you do not feel competent to carry out the defrosting instructions below please call your local Gas Safe Registered installer for assistance.
- b. If you do feel competent to carry out the following instructions please do so with care when handling hot utensils. Do not attempt to thaw pipework above ground level.

If this appliance develops a blockage in its condensate pipe, its condensate will build up to a point where it will make a gurgling noise prior to locking out an "L2" fault code. If the appliance is reset it will make a gurgling noise prior to it locking out on a failed ignition "L2" code.

To unblock a frozen condensate pipe;

1. Follow the routing of the plastic pipe from its exit point on the appliance, through its route to its termination point.  
Locate the frozen blockage. It is likely that the pipe is frozen at the most exposed point external to the building or where there is some obstruction to flow. This could be at the open end of the pipe, at a bend or elbow, or where there is a dip in the pipe in which condensate can collect. The location of the blockage should be identified as closely as possible before taking further action.
2. Apply a hot water bottle, microwaveable heat pack or a warm damp cloth to the frozen blockage area. Several applications may have to be made before it fully defrosts. Warm water can also be poured onto the pipe from a watering can or similar. DO NOT use boiling water.
3. Caution when using warm water as this may freeze and cause other localised hazards.
4. Once the blockage is removed and the condensate can flow freely, reset the appliance. (Refer to "To Light the boiler")
5. If the appliance fails to ignite, call your Gas Safe Registered engineer.

### **Preventative solutions**

During cold weather, set the boiler stat to maximum, (Must return to original setting once cold spell is over)

Place the heating on continuous and turn the room stat down to 15°C overnight or when unoccupied. (Return to normal after cold spell).

## **Escape of Gas**

Should a gas leak or fault be suspected contact the National Gas Emergency Service without delay. **Telephone 0800 111 999**

**Do NOT search for gas leaks with a naked flame.**

## **Cleaning**

For normal cleaning simply dust with a dry cloth.

To remove stubborn marks and stains, wipe with a damp cloth and finish off with a dry cloth.

**DO NOT use abrasive cleaning materials.**

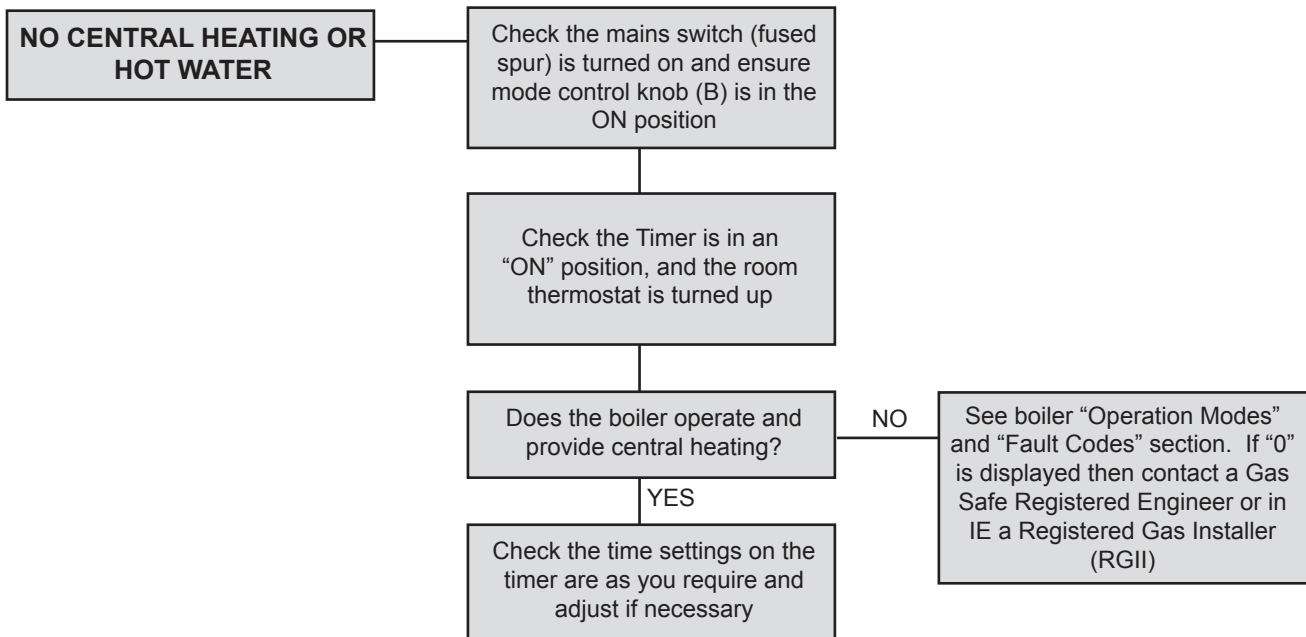
## **Maintenance**

The appliance should be serviced at least once a year by a Gas Safe Registered Engineer or in IE a Registered Gas Installer (RGII).


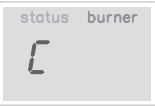
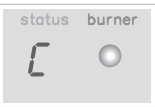
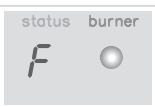
## POINTS FOR THE BOILER USER

**Note.** In line with our current warranty policy we would ask that you check through the following guide to identify any problems external to the boiler prior to requesting a service engineers visit. Should the problem be found to be other than with the appliance we reserve the right to levy a charge for the visit, or for any pre-arranged visit where access is not gained by the engineer.

## TROUBLESHOOTING


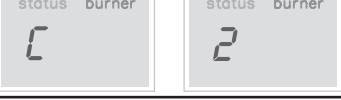











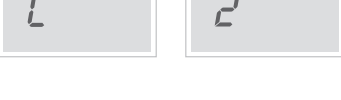

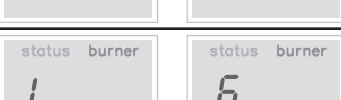


## OPERATION MODES

DISPLAY CODE ON BOILER	DESCRIPTION
	The boiler is in standby mode awaiting either a central heating call or hot water demand.
	The boiler has a call for heating but the appliance has reached the desired temperature set on the boiler.
	The boiler is operating in heating mode.
	The boiler is operating in frost mode.

*continued . . . . .*

# FAULT CODES

DISPLAY CODE ON BOILER	DESCRIPTION	ACTION
	BCC Activation Fault	Reset the appliance - if the boiler fails to operate then please contact Ideal (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
	BCC Fault	
	Unconfigured PCB	Reset the appliance - if the boiler fails to operate then please contact Ideal (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
	Flame Loss	See Action - Fault Code L 2
	Fan Fault	Reset the appliance - if the boiler fails to operate then please contact Ideal (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
	Flow Thermistor	Reset the appliance - if the boiler fails to operate then please contact Ideal (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
	Return Thermistor	Reset the appliance - if the boiler fails to operate then please contact Ideal (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
	Outside Sensor Failure	Reset the appliance - if the boiler fails to operate then please contact Ideal (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
	Low Mains Voltage	Contact a qualified electrician or your electricity provider.
	PCB Fault	Please contact Ideal (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
	Flow/Return Reversed	Please contact a Gas Safe Registered Engineer. In IE contact a Registered Gas Installer (RGII).
	No Water Flow	Please contact Ideal (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
	Flow Temperature Overheat or Unconfigured PCB	Check system pressure is between 1 & 1.5bar on the pressure gauge. If the boiler fails to operate then please contact Ideal (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).
	Ignition Lockout	<ol style="list-style-type: none"> <li>1. Check other gas appliances in the house are working to confirm a supply is present in the property.</li> <li>2. If other appliances do not work or there are no other appliances, check the gas supply is on at the meter and/or pre payment meter has credit. If the boiler fails to operate then please contact Ideal (if under warranty) or alternatively a Gas Safe Registered engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).</li> </ol>
	5 Boiler Resets in 15 minutes	<ol style="list-style-type: none"> <li>1. Turn power off and on at the fused spur.</li> <li>2. If the boiler fails to operate please contact Ideal (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).</li> </ol>
	False Flame Lockout	Reset the appliance - if the boiler fails to operate then please contact Ideal (if under warranty) or alternatively a Gas Safe Registered Engineer if outside of the warranty period. In IE contact a Registered Gas Installer (RGII).



## **Self-contained Carbon Monoxide Alarm “The Professional’s Choice”**

**Our products and services protect millions of people every day. Why would you trust your life or the safety of your family to anyone else?**

# H450EN Self-contained Carbon Monoxide Alarm



## Why choose the H450EN

### Carbon Monoxide (CO) alarm:

- 6 year guarantee, up to 7 year life of alarm
- Superior electrochemical cell sensing technology
- Easy to install and use
- Automatic sensor adjustment function ensures complete accuracy
- Approved to EN50291-1:2010 and Kitemarked
- Continuous self test function
- Batteries pre-fitted in alarm
- No sensors to replace
- No mains power
- No maintenance
- End of unit life indication

**The H450EN is an easy to use and reliable self-contained Carbon Monoxide alarm. Designed for use in all domestic environments such as homes, static caravans and home parks.**



All gas appliances should be checked for safety annually.

The H450EN has a unique fold down flap on the front of the unit which provides a range of useful information to the user without having to refer back to the comprehensive instruction manual.

### This includes:

- A description of the potential alarm and fault signals that the unit can give
- What to do if the full alarm sounds and a contact telephone number
- Contact details for our CO Advice Line and CO alarm replacements
- Contact details for Gas Safe Register (ensure gas installers are properly registered)

### Sensor Technology

The latest electrochemical cell technology ensures complete accuracy and reliability giving a 6 year guarantee and up to 7 year life under normal operating conditions. It is officially approved and Kitemarked to the stringent performance requirements of EN50291-1:2010 - the European Standard for domestic Carbon Monoxide alarms.

### Installation

The H450EN is easily attached using the fixing kit provided, with no need for any wiring. No maintenance is required for the full 7 year life of the alarm, with no sensors or any parts to replace.

### Maintenance-free Operation

This alarm, including batteries, is guaranteed for 6 years. The batteries are sealed inside the alarm, preventing access by the user and do not require replacement for the whole life of the alarm (up to 7 years).

### The Professional's Choice

The H450EN is widely regarded as the professional's choice of Carbon Monoxide alarm and is the chosen unit of numerous major organisations such as gas suppliers, energy companies, local authorities and housing associations etc.

### Visual signalling



The H450EN provides a visual signalling in addition to its audible alarm. It enables the user to clearly distinguish between a

dangerous alarm situation, a fault situation like almost empty batteries, and normal operation. This is achieved with the new dual-colour status light, which will flash green to indicate normal operation, and yellow in case of a fault. This also provides a clear end of unit life indication for the unit.



BS EN50291-1:2010

**Honeywell is a leading manufacturer of Carbon Monoxide alarms**

# General Specification



Specification	
Detection Principle	Electrochemical cell
Operating Voltage	3V
Alarm Life	Up to 7 years under normal operating conditions
Alarm Indication	Audible and visual alarm
Buzzer Output	> 85 decibels (dB) at 1m
Operating Temperature Range	-10 to +40°C
Humidity Range	30 to 90% RH non condensing
Alarm Levels	50ppm between 60 to 90 minutes 100ppm between 10 to 40 minutes 300ppm < 3 minutes (as required by EN50291-1:2010)
Weight	0.1kg (100g) approx.
Dimensions	110mm x 76mm x 34mm
Test Facility	Yes
Self Check Function	Yes

Ordering Information	
Blister Pack (UK/FR/DE/NL)	H2109B0181SE
Trade Box (UK/FR/DE/NL)	H2109B0180SE
Trade Box (UK/IT/ES/PT)	H2109B0180SEB



## Customer Branding

For specific volume contracts, we are able to screen print a customer logo on the front of the unit. This is particularly popular with Local Authorities, Housing Associations and Utilities. Terms and conditions apply - full details on request.



The H450EN is available in a blister pack or trade box.

## Contact Us

We also provide a **UK CO Advice Line/Call Centre** facility which is available Monday to Thursday 8.30am to 5pm and Friday 8.30am to 3.30pm. The Call Centre will answer any queries on our products and on CO. Please call **01202 645 577** for more information.



From 1 April 2009, all gas engineers in Great Britain and Isle of Man must be on the new Gas Safe Register® to do gas work lawfully. We fully support the efforts of Gas Safe Register® and will only recommend the use of Gas Safe registered engineers for the servicing of gas appliances.

Honeywell Analytics is a keen supporter of numerous national awareness campaigns designed to raise the profile of CO safety and the use of officially approved CO alarms. These include the *Be Alarmed* campaign, *CO Awareness Week* and *Gas Safety Week*. Honeywell Analytics is actively committed to reducing the injuries and deaths resulting from CO poisoning and works with government and key lobby groups to evolve domestic safety legislation.



Carbon Monoxide - Be Alarmed! is the national campaign to encourage the use of properly approved CO alarms to reduce

the number of deaths and injuries caused by Carbon Monoxide. For more information about how to stay safe please visit the campaign website: [www.co-bealarmed.co.uk](http://www.co-bealarmed.co.uk)



# Evocyl

## INSTALLATION MANUAL

ISSUE 2014-V1

FOR MORE INFORMATION GO TO:  
**[WWW.THERMAQ.CO.UK](http://WWW.THERMAQ.CO.UK)**



## INTRODUCTION

The corrosion resistant Evocyl Unvented cylinder is made from Duplex Stainless Steel. It is highly insulated with environmentally friendly foam enclosed in a rust resistant white steel case.

It is available in Direct, and Indirect versions in a family of 7 sizes from 90 - 300 litres in Twin Coil and Indirect. Direct Eco units are available in 5 sizes from 150 - 300 litres. There is also a range of slimstyle units from 60 - 210 litres again in Direct and Indirect versions.

To help ensure compliance with the relevant Water and Building Regulations all Evocyl units are supplied complete with the necessary safety and control devices needed to connect to the cold water mains. In order to ensure high flowrate performance with minimum pressure drop even in lower pressure areas, pre-set high quality controls have been selected.

Evocyl is approved to demonstrate compliance with Water Regulations and Building Regulations G3 & Part L.

## STORAGE PRIOR TO INSTALLATION

Evocyl should be stored upright in a dry area and kept in its original packaging until immediately prior to installation.

## INSTALLATION PREREQUISITES

This Cylinder should only be installed by a competent installer holding their G3 unvented qualification. The installation of this product is also notifiable under the national Building Regulations.

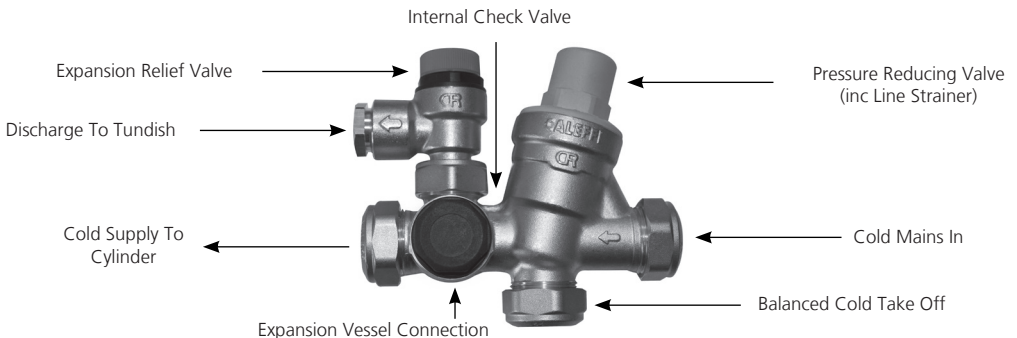
**ONCE COMPLETED THIS INSTRUCTION MANUAL IN ITS ENTIRETY SHOULD BE LEFT WITH THE HOME OWNER.**

## WHAT IS BENCHMARK?

Benchmark places responsibilities on both manufacturers and installers. The purpose is to ensure that customers are provided with the correct equipment for their needs, that it is installed, commissioned and serviced in accordance with the manufacturer's instructions by competent persons and that it meets the requirements of the appropriate Building Regulations. The Benchmark Checklist can be used to demonstrate compliance with Building Regulations and should be provided to the customer for future reference.

Installers are required to carry out installation, commissioning and servicing work in accordance with the Benchmark Code of Practice which is available from the Heating and Hotwater Industry Council who manage and promote the scheme. Visit [www.centralheating.co.uk](http://www.centralheating.co.uk)

## COLD INLET SET - WHAT ARE THE CONNECTIONS?



## EQUIPMENT SUPPLIED WITH THE CYLINDER

Cold Water Inlet Set	<b>LOOSE</b>
15 x 22mm Tundish	<b>LOOSE</b>
Temperature & Pressure Relief Valve	<b>FITTED</b>
Expansion Vessel	<b>LOOSE</b>
Expansion Vessel Bracket	<b>LOOSE</b>
Compression Nut Connection For Expansion Vessel	<b>LOOSE</b>
Immersion Heater(s) - Dependant on size & configuration	<b>LOOSE</b>
Instructional Manual	<b>LOOSE</b>
Benchmark Log Book - Found at the rear of this manual	<b>LOOSE</b>

## WATER SUPPLY

Evocyl is capable of delivering over 50 litres per minute when connected to a suitable mains supply. The high quality inlet control set with its 3 bar operating pressure has been designed to make the most of what is available however the performance of any unvented system is only as good as the water supply.

In unvented systems both hot and cold services are supplied simultaneously from the mains so the maximum possible on-site water demand must be assessed and the water supply should be tested to ensure it can meet these requirements. If necessary consult the local water supplier regarding the likely pressure and flow rate availability.

It is important that site pressure readings are taken under dynamic flow conditions, high pressures under zero flow conditions are not necessarily indicative of satisfactory performance. A minimum of 1.5 bar at 20 l/m flow should be available. Where mains inlet pressures are likely to exceed 16 bar then an additional upstream pressure reducing device should be fitted.

A minimum of 22mm supply pipe-work should ideally be provided and existing 1/2" (15mm) cold mains pipe-work may need to be upgraded. Hard water treatment should be considered in areas where content is greater than 200ppm, if required adjust cylinder temperature to below 60 degrees.

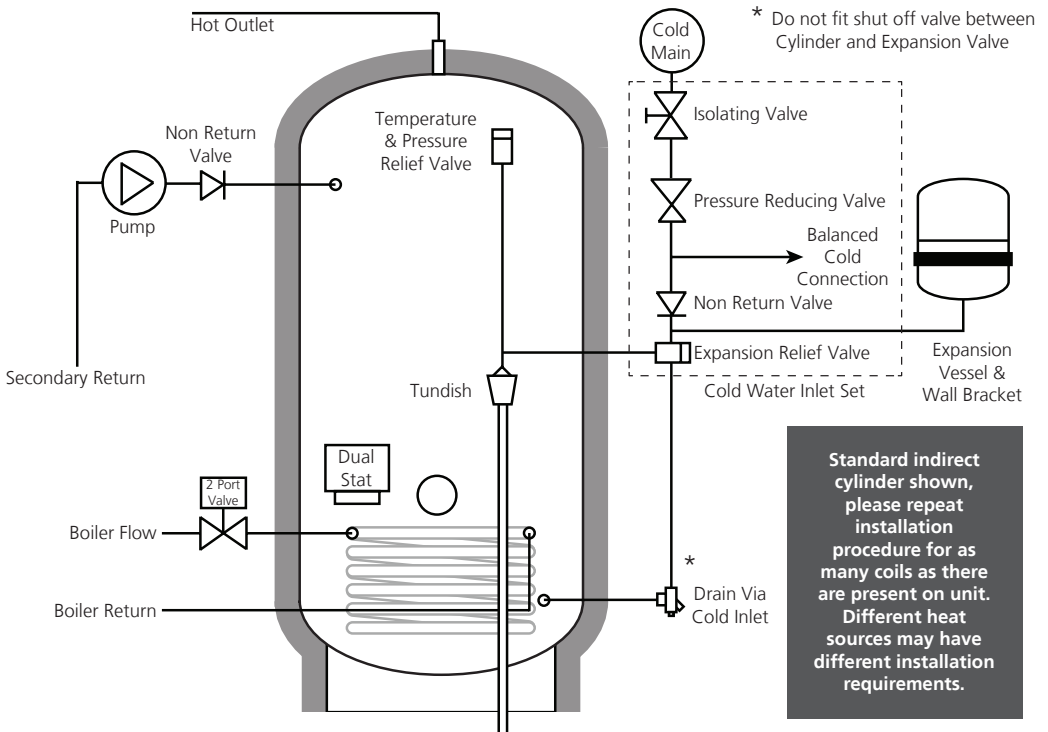
## SITING THE UNIT

Evocyl can be positioned more or less anywhere in the dwelling but it should be remembered that for every 1 metre that an outlet is above the Evocyl, the pressure will be reduced by 0.1 bar. If siting outside the heated envelope of the dwelling such as in a garage or outbuilding then frost protection should be provided and exposed pipework should be insulated.

Evocyl must be supported on a flat base capable of supporting the weight of the cylinder when full. The minimum recommended cupboard size is 650mm square.

It's important that consideration is given to access for maintenance of the valves. The immersion heaters are 375 mm long and access space should be provided for possible future replacement, also adequate access to remove and re-install the cylinder in the event of a problem.

## SCHEMATIC



## GENERAL INSTALLATION

### COLD MAINS PIPEWORK AND EXPANSION VESSEL

Run the cold main through the building to the place where the Evocyl is to be installed. Take care not to run the cold pipe near hot water or heating pipe work so that the heat pick up is minimised. Identify the cold water supply pipe and fit an isolating valve (not supplied).

A 22mm BS1010 stopcock can typically be used but a 22mm quarter turn full bore valve would be better as it does not restrict the flow as much. Do not use "screwdriver slot" or similar valves.

Make the connection to the cold feed of the cylinder and incorporate a drain valve. Position the inlet control just ABOVE the Temperature & Pressure Relief Valve (TPRV) mounted on the side of the cylinder. This ensures that the cylinder does not have to be drained down in order to service the inlet control set. Ensure that the arrow points in the direction of the water flow. Select a suitable position for the expansion vessel. Mount it to the wall using the bracket provided. Use the compression connection supplied to connect the vessel into the cold water pipe adjacent to the cold feed point on the cylinder. There must be no obstruction or flow restriction between the cylinder and the expansion vessel.

### BALANCED COLD CONNECTION

If there are to be showers, bidets or monobloc taps in the installation then a balanced cold supply is necessary. There is a 22mm balanced connection on the inlet control set. All outlets in the house will be at 3 bar and thus automatically balanced.

### HOT WATER PIPEWORK

Run the first part of the hot water distribution pipework in 22mm. This can be reduced to 15mm and 10mm as appropriate for the type of tap etc. Your aim should be to reduce the volume of the hot draw off pipework to a practical minimum so that the time taken for the hot water is as quick as possible.

Do not use monobloc mixer tap or showers if the balanced cold connection is not provided, the unit will back pressurise and result in discharge. Ensure that the top of the vessel is accessible for servicing.

### PRIMARY COIL CONNECTIONS (INDIRECT ONLY)

Compression connections are provided for the primary circuit which must be positively pumped. Primary flow and return connections are interchangeable to suit site conditions without affecting reheat times. These connections are metric and should be changed by the installer if using Irish size copper tube.

Sealed or vented primary circuits can be used, to comply with normal installation practice the primary pressure should not exceed 3 bar although the coil in Evocyl is suitable for up to 7 bar if required. The boiler may be Gas, Electric, Oil etc but must be under effective thermostatic control. Uncontrolled heat sources such as some AGA's, back boilers, solid fuel stoves, etc may not be suitable please contact us for guidance. The two port zone valve should be installed into the primary flow pipework leading to the coil flow inlet. The direction of flow arrow should be towards the primary flow connection. On twin coil cylinders an extra thermostat boss is provided.

### SECONDARY CIRCULATION

Where secondary circulation is required a circulator suitable for potable water should be used in conjunction with a non return valve to prevent backflow. It may be necessary to incorporate an extra expansion vessel into the circuit to accommodate the increased system water volume in larger secondary circulation systems. Where off peak electrical tariffs are being used then secondary circulation should be avoided. A secondary return boss is fitted as standard on 210, 250 & 300L. On smaller sizes tee into the cold feed pipe above the drain.

### IMMERSION HEATERS

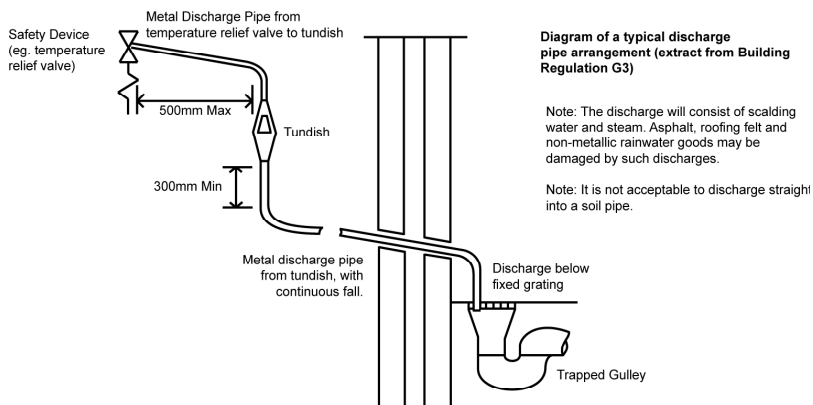
As a requirement of Building Regulations the Evocyl immersion heaters are fitted with thermal cut-out in addition to the normal control thermostat. To help ensure correct replacement the immersion heaters have a special 13/4" thread. They are of a low noise Incoloy construction and rated at 3 kW at 240 V. Replacement immersion heaters should be purchased via ourselves otherwise your guarantee may be affected. For commercial / heavy duty installations where constant usage / reheat is required Titanium immersion heaters must be fitted in order to comply with the warranty.

The 'O'ring on the head of the immersion heater should be correctly positioned and lubricated before fitting. Screw in hand-tight until almost sealed then gently tighten as the 'O' rings will seal easily. The electrical supply to each immersion heater/s must be fused at 13A via a double pole isolating switch to BS 3456. The cable must be 2.5mm<sup>2</sup> heat resistant (85°C HOFRR) sheathed flex complying to BS 6141:1981 Table 8. Do not operate the immersion heater/s until the unit is full of water. If any sterilisation liquid is in the cylinder do not operate the immersion heater/s as this will cause premature failure. Electric to be supplied by a fused supply compliant with local regulations, and fitted by a qualified Part P Electrician.

## ENERGY CUT OUT AND CYLINDER THERMOSTAT (INDIRECT ONLY)

As a requirement of Building Regulations the Evocyl units are fitted with a thermal cut-out in addition to the normal control thermostat. This unit should be fitted to the dedicated boss on the cylinder and wired to the two port valve controlling the primary flow.(see wiring diagram).

## DISCHARGE ARRANGEMENT



This guidance is available as a free of charge download of the G3 Approved Document from [www.planningportal.gov.uk](http://www.planningportal.gov.uk). The discharge from both the temperature relief and expansion relief valves can be joined together via a 15mm end feed tee.

It is important that any discharge water does not collect in this pipe-work and can run freely to the tundish. The tundish should be mounted in a vertical and visible position located in the same space as the unvented hot water storage system and be fitted as close as possible and within 500mm of the safety device e.g. the temperature relief valve. The discharge pipe-work from the tundish must be routed in accordance with Part G3 of the Building Regulations.

The discharge pipe from the tundish should terminate in a safe place where there is no risk to persons in the vicinity of the discharge, be of metal and:

- Be at least one pipe size larger than the nominal outlet size of the safety device unless its total equivalent hydraulic resistance exceeds that of a straight pipe 9m long i.e. discharge pipes between 9m and 18m equivalent resistance length should be at least two sizes larger than the nominal outlet size of the safety device, between 18 and 27m at least 3 sizes larger, and so on. Bends must be taken into account in calculating the flow resistance. An alternative approach for sizing discharge pipes would be to follow BS6700 Specification for design installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages.
- Have a vertical section of pipe at least 300mm long, below the tundish before any elbows or bends in the pipework.
- Be installed with a continuous fall.
- It is preferable for the discharge to be visible at both the tundish and the final point of discharge but where this is not possible or practically difficult there should be clear visibility at one or other of these locations.

Examples of acceptable discharge arrangements are:

1. Ideally below the fixed grating and above the water seal in a trapped gully.
2. Downward discharges at a low level; i.e. up to 100mm above external surfaces such as car parks, hard standings, grassed areas etc. are acceptable providing that where children play or otherwise come into contact with discharges, a wire cage or similar guard is positioned to prevent contact whilst maintaining visibility.
3. Discharges at a high level; e.g. in to metal hopper and metal down pipe with the end of the discharge pipe clearly visible (tundish visible or not) or onto a roof capable of withstanding high temperature discharges of water and 3m from any plastic guttering systems that would collect such discharges (tundish available).
4. Where a single pipe serves a number of discharges, such as in blocks of flats, the number served should be limited to not more than 6 systems so that any installation can be traced reasonably easily. The single common discharge pipe should be at least one pipe size larger than the largest individual discharge pipe to be connected. If unvented hot water storage systems are installed where discharges from safety devices may not be apparent i.e. in dwellings occupied by blind, infirm or disabled people, consideration should be given to the installation of an electronically operated device to warn when discharge takes place.

**ANY QUERIES WITH REGARD TO DISCHARGE ARRANGEMENT CONTACT YOUR LOCAL COUNCIL PLANNING OFFICE.**

## COMMISSIONING SERVICING

### FILLING

Check all connections for water tightness including any factory made connections such as the temperature and pressure relief valve. The pressure in the expansion vessel should be checked to ensure it is 3 bar (45PSI). The valve is of the car tyre (Schrader) type.

The hot tap furthest away from the Evocyl should be opened before filling the system to let air out.

The system should be flushed before use. The remaining taps should be opened in turn to expel air.

### DIRECT UNITS

The system must be fully filled and flushed before switching on the power to the immersion heaters and allowing the unit to heat up. The immersion heater is supplied preset at 55°C. Turning fully to + sets to approx 65°C.

### INDIRECT UNITS

Ensure the lever on the two port valve is set to the filling position and use the boiler manufacturers commissioning instructions to fill the primary circuit. When full release the lever. Switch the programmer to Domestic Hot water (DHW) and allow the unit to start to heat. Adjust the dial of the dual thermostat to between 55°C and 65°C as required.

### STORAGE TEMPERATURE

A storage temperature of 60-65°C is normal for both direct and indirect Evocyl. In hard water areas consideration should be given to reducing this to 55-60°C. In many healthcare applications the guidance on Legionella control and safe water delivery temperatures will require storing the water at 60-65°C, distributing at 50-55°C and using thermostatic mixing valves to control the final temperature. For details consult the NHS estates guidance on safe hot water temperatures.

### SAFETY VALVE CHECKS

Any water coming from either the expansion relief valve or the temperature / pressure relief valve during heat up is indicative of a problem which needs to be identified and rectified. The temperature relief and expansion relief valves should be fully opened, one at a time then both together allowing as much water as possible to flow through the tundish. Check that your discharge pipework is free from debris and is carrying the water away without spillage over the tundish and release the valves and check that they re-seal properly.

### GENERAL

Servicing should only be carried out by competent installers and any spare parts used must be purchased from Therma Q. NEVER bypass any safety devices or operate the unit without them fully operational.

### DRAINING

Isolate from the electrical supply to prevent the immersion heaters burning out. Isolate the unit from the cold mains. Attach a hose to the draining tap ensuring it reaches to a level below the unit (This will ensure an efficient syphon is set up and the maximum amount of water is drained from the unit). Open the hot tap closest to the unit and open the draining tap.

**WARNING: WATER DRAINED OFF MAY BE VERY HOT!**

### ANNUAL SERVICING

A competent installer should carry out the following checks on an annual basis, ideally at the same time as the annual boiler service.

1. The expansion relief valve on the inlet control set should be eased open allowing water to flow for 5 seconds. The valve should then be closed making sure it resets correctly. Repeat this procedure with the pressure / temperature relief valve. Always insure that the discharge pipework is allowing the water to drain away adequately. If not check for blockages etc. and clear.

**WARNING: THE WATER DISCHARGED MAY BE VERY HOT!**

2. Ensure that any immersion heaters that are fitted are working correctly and that they are controlling the water at a temperature of between 55°C and 65°C.
3. Make sure the pressure in the expansion vessel is charged to 3 bar. Turn off the water supply to the unit and open a hot tap first. The valve on the expansion vessel is a Schrader (standard car tyre) type. Air or CO2 can be used to repressurise the expansion vessel.
4. Remove the head on the inlet control set by unscrewing, and clean the mesh filter within.
5. The benchmark service record supplied within this manual should be updated at each service.

**YOUR GUARANTEE MAY BE VOID WITHOUT PROOF OF ANNUAL SERVICING. THE COMMISSIONING CERTIFICATE SUPPLIED AT THE REAR OF THIS MANUAL SHOULD ALSO BE COMPLETED BY THE INSTALLER.**

## GUARANTEE

The Evocyl stainless steel vessel carries a 25 year guarantee against faulty materials or manufacture provided that:

- It has been correctly installed as per this document and all the relevant standards, regulations and codes of practice in force at the time.
- It has not been modified in any way, other than by Therma Q.
- It has not been misused, tampered with or subjected to neglect.
- It has only been used for the storage of potable water.
- It has not been subjected to frost damage.
- The unit has been serviced annually.
- The benchmark service record has been filled in after each annual service.
- The guarantee period starts from the date of purchase and no registration is required.
- The extended guarantee is not transferable, and rests with the original householder.
- The system is fed from a public mains water supply.
- Store temperatures do not exceed 65oC.
- Installations are made only in the UK & Republic Of Ireland.
- The water supply does not have a Chloride content greater than 250ppm.
- Units are not installed with uncontrollable heat sources (E.g. Wood Burning Stoves).
- For commercial / heavy duty installations where constant usage / reheat is required Titanium immersion heaters must be fitted in order to comply with the warranty.

Please note that invoices for servicing may be requested to prove that the unit has been serviced annually. All the components fitted to / or supplied with the Evocyl carry a 2 year guarantee. The guarantee starts when the cylinder is first filled.

## EXCLUSIONS - THINGS THE GUARANTEE DOES NOT COVER

The effects of scale build up. Any labour charges associated with replacing the unit or its parts. Any consequential losses caused by the failure or malfunction of the unit.

## GUIDANCE IN THE EVENT OF A PROBLEM

If you have a problem in the first year contact the plumber who fitted the unit. Thereafter contact the plumber who carries out the annual servicing for you. If your Evocyl develops a leak we will supply you with a new one. We ask for an up-front payment to prevent fraud.

We will require the original unit to be returned to us for inspection along with a copy of your service record and commissioning checksheet. If it is confirmed that it has failed within the terms of the warranty your upfront payment will be refunded. If a component part fails within the two year guarantee period we will send you a new one again with an upfront charge. Credit card details may be taken to prevent fraud. We ask you to post the faulty part back to us within one month by recorded delivery. Once the part has been tested and proven faulty a refund will be issued.

## USER INSTRUCTIONS

Your stainless system is automatic in normal use and requires only annual servicing. You should employ an competent installer to perform the annual servicing. Normally this is timed to coincide with the annual boiler service.

### **IF WATER IS FLOWING FROM THE SAFETY VALVES THROUGH THE TUNDISH THIS INDICATES A FAULT CONDITION AND ACTION IS NEEDED.**

If this water is hot turn the boiler and / or the immersion heater off. Do not turn off the water until the discharge runs cool. The discharge may also stop.

### **CALL A COMPETENT PLUMBER OUT TO SERVICE THE UNIT.**

Tell them you have a fault on an unvented cylinder. We stock all the spare parts they may need.

## PLEASE NOTE

Before making any claim/return on a Evocyl Cylinder or Component, please make sure you have run through the following fault finding options and check the offending item is less than one year old or the unit has been serviced every 12 months in line with the Benchmark Scheme.

Proof of this will be required when returning any part, also note all components are date stamped. Failure to do this will result in any credit/claim being rejected.

# UNVENTED CYLINDER

## Fault Finding Information

Symptoms.	Possible Causes	Follow up action.
<b>Cylinder appears to leak from within the case.</b>	Loose cylinder connection.	Check all connection points including immersion heaters to ensure integrity of joint and remake any suspect joints.
<b>Expansion Valve operates and water is visible at the Tundish.</b>	Possible fault at Pressure Reducing Valve.	Follow fault finding information for Inlet Control Group.
	Back pressure from the system.	Check all mixer type outlets are served by a balanced cold service. Where not repipe or install bespoke pressure reducing valve to offending outlet.
<b>Expansion Valve operates when cylinder is heated.</b>	Possible fault at Expansion Vessel.	Follow fault finding information for Expansion Vessel.
<b>Noise when operating tap outlet.</b>	Insecure Pipework.	Increase the number of pipe clips.
<b>Reduced water flow.</b>	External works to public mains.	Wait for works to be completed.
	Debris from water mains.	Strip & clean or replace Inlet Control Group.
	Pressure Reducing Valve sticking.	Strip & clean or replace Inlet Control Group.
<b>No hot water available.</b>	Immersion heater failure.	Follow fault finding information for Immersion Heater
	Boiler failure.	Check operation of the boiler and its controls.

# EXPANSION VESSEL

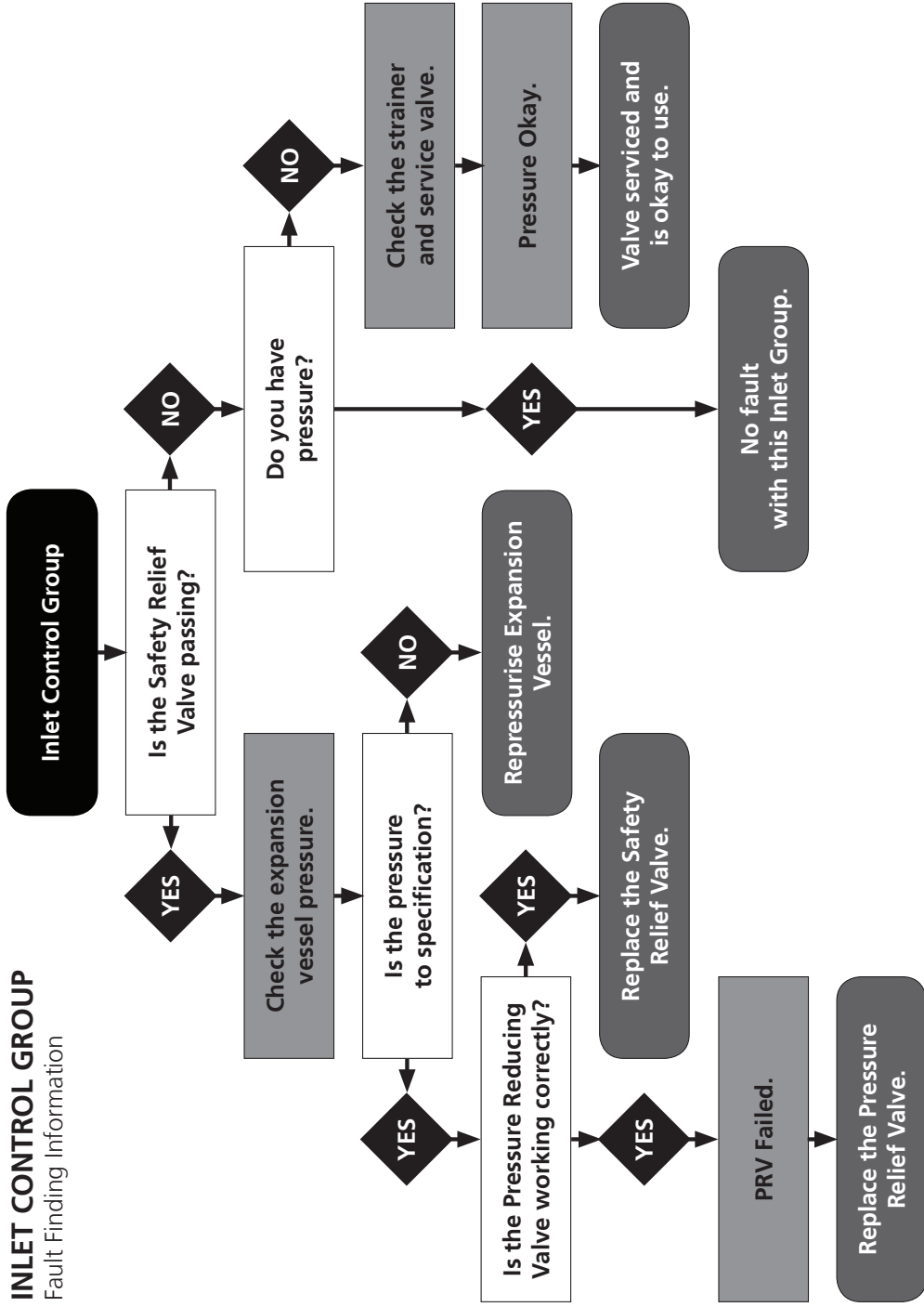
## Fault Finding Information

Symptoms.	Possible Causes	Follow up action.
<b>Discharge of water from the Relief Valve.</b>	Expansion Vessel is too small.	Vessel needs resizing and installation by appropriately qualified engineers.
	Pre-charge set incorrectly on vessel installation.	Pre-charge requires setting while system is de-pressurised according to cylinder manufacturers recommendations.
	Membrane is ruptured and may require replacement.	Replace membrane or entire vessel. Inspect Shrader valve for leaks or damage.
	Membrane may be partially de-pressurised due to natural losses and require re-pressurisation.	Re-pressurise or consider replacement depending on age of vessel and amount of pressure lost. Inspect Shrader valve for leaks or damage.
<b>Leak from Flange or Water Connection.</b>	Failure of Flange Plate.	Replace Flange Plate or entire Vessel.
	Loss of torque in Flange retaining bolts.	Re-tighten bolts as needed.
	Ruptured membrane has caused corrosion of vessel body resulting in pinhole leak.	Entire Vessel must be replaced. Inspect Shrader valve for leaks or damage.
<b>Vessel appears to be fully of liquid when system is cold.</b>	Membrane is de-pressurised.	Replace membrane or entire vessel. Inspect Shrader valve for leaks or damage.
<b>Water is discharged from vessel when Shrader pin is de-pressed for inspection of air pressure.</b>	Membrane is ruptured.	Membrane or vessel requires replacement.



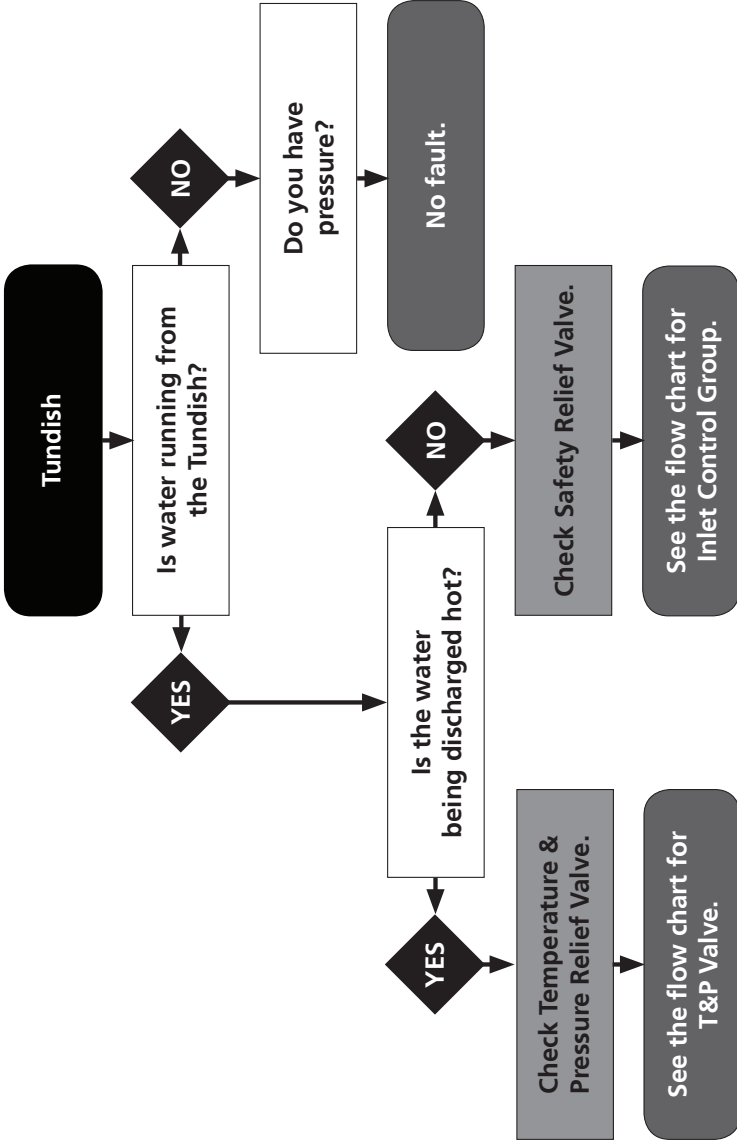
# INLET CONTROL GROUP

Fault Finding Information



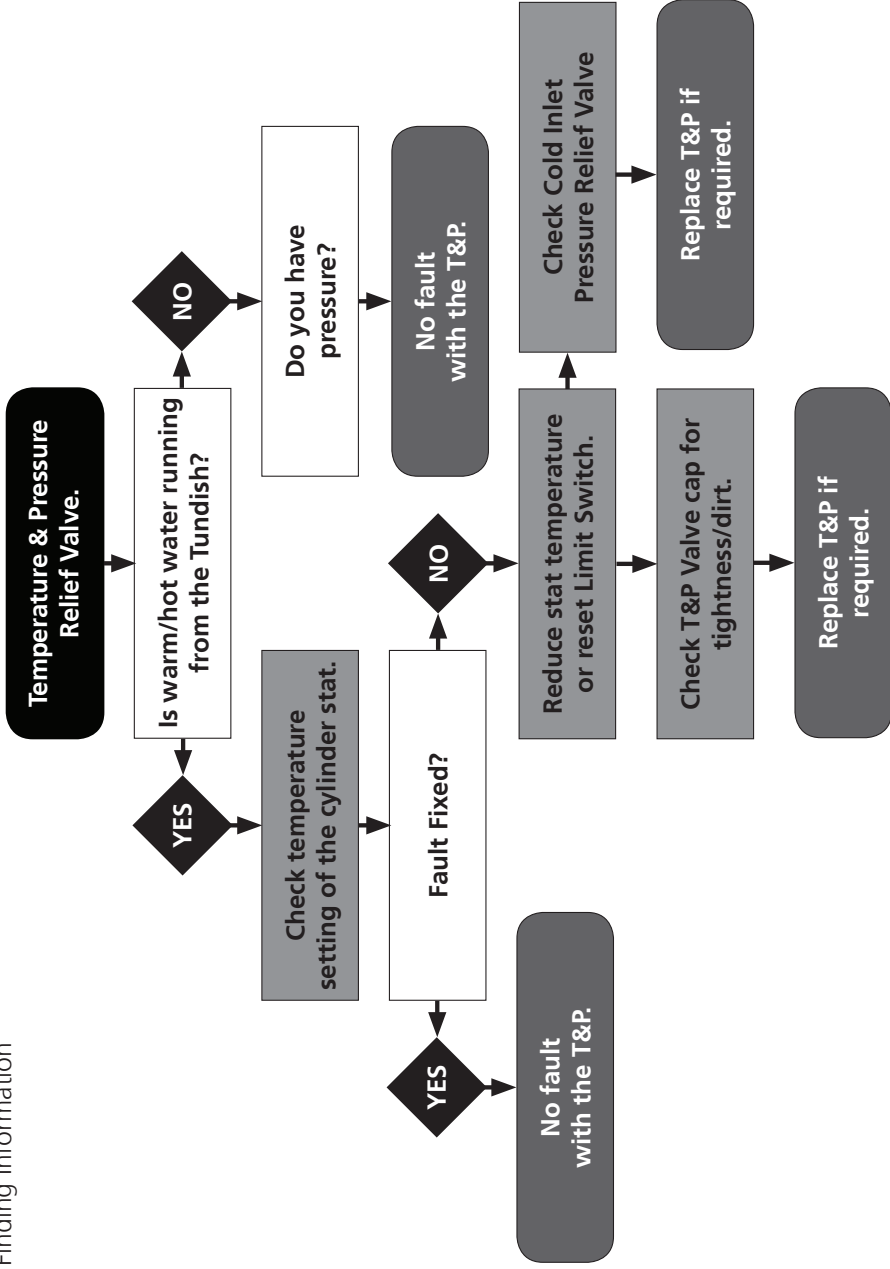
# TUNDISH

Fault Finding Information



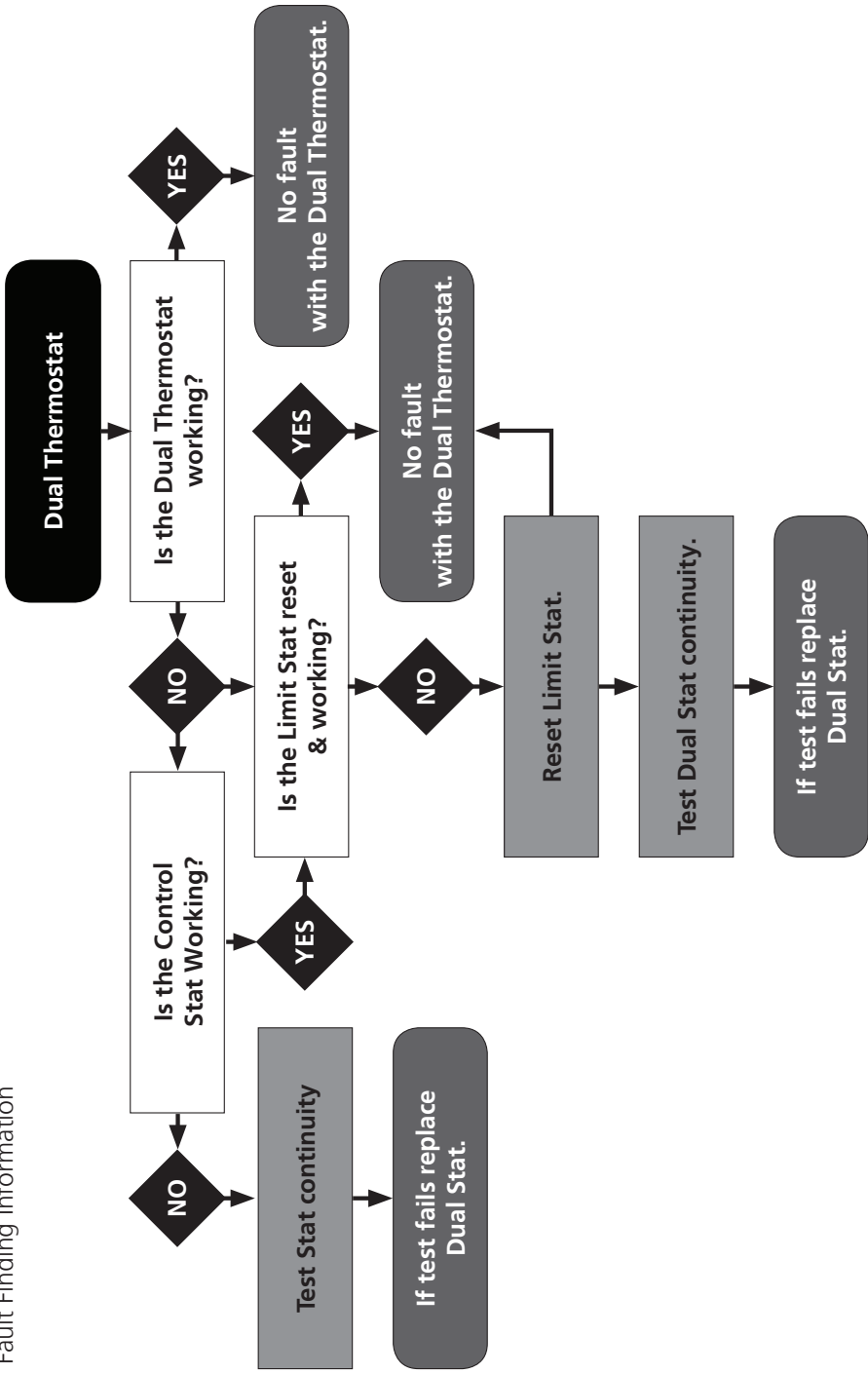
# T&P RELIEF VALVE

Fault Finding Information



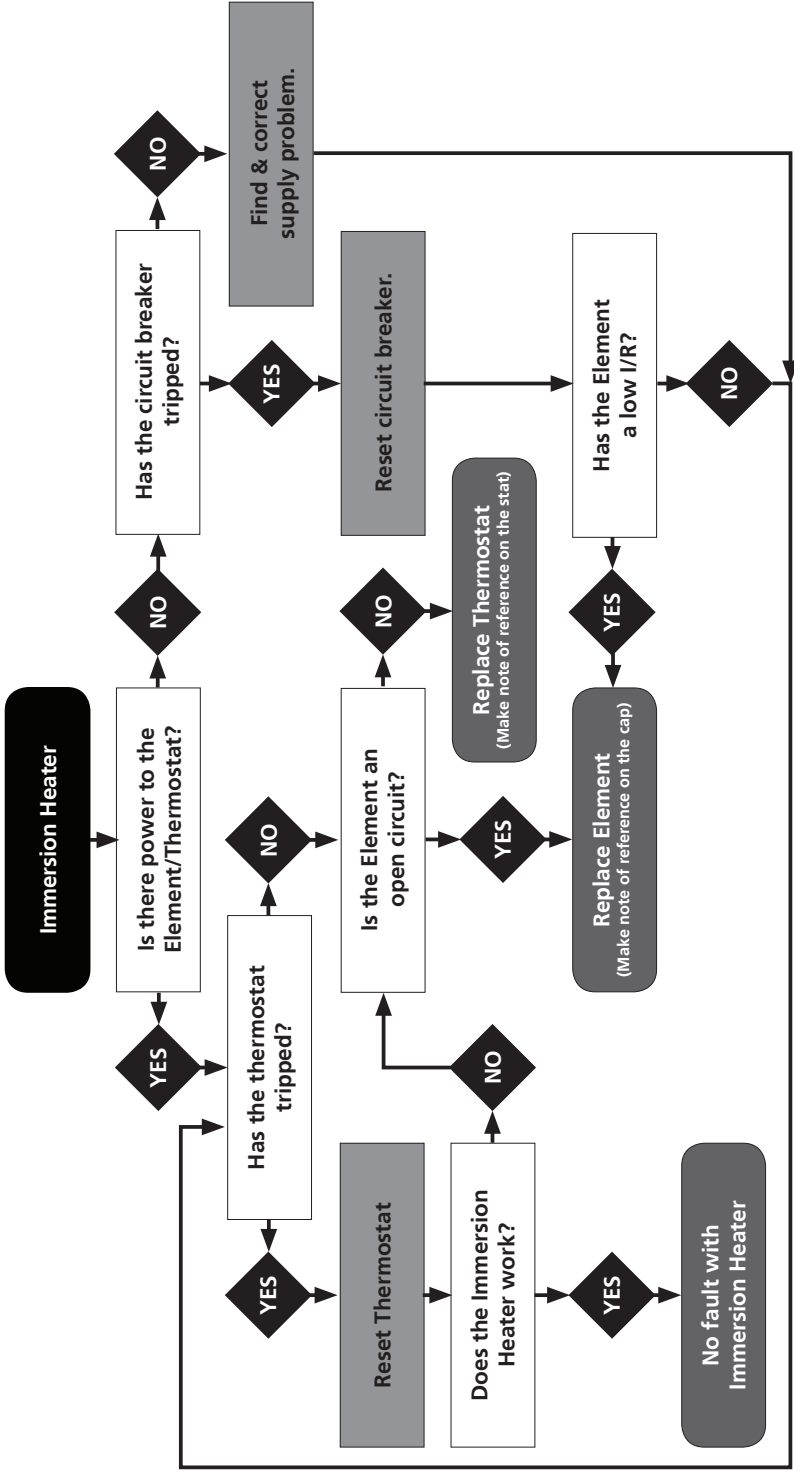
# DUAL THERMOSTAT

Fault Finding Information



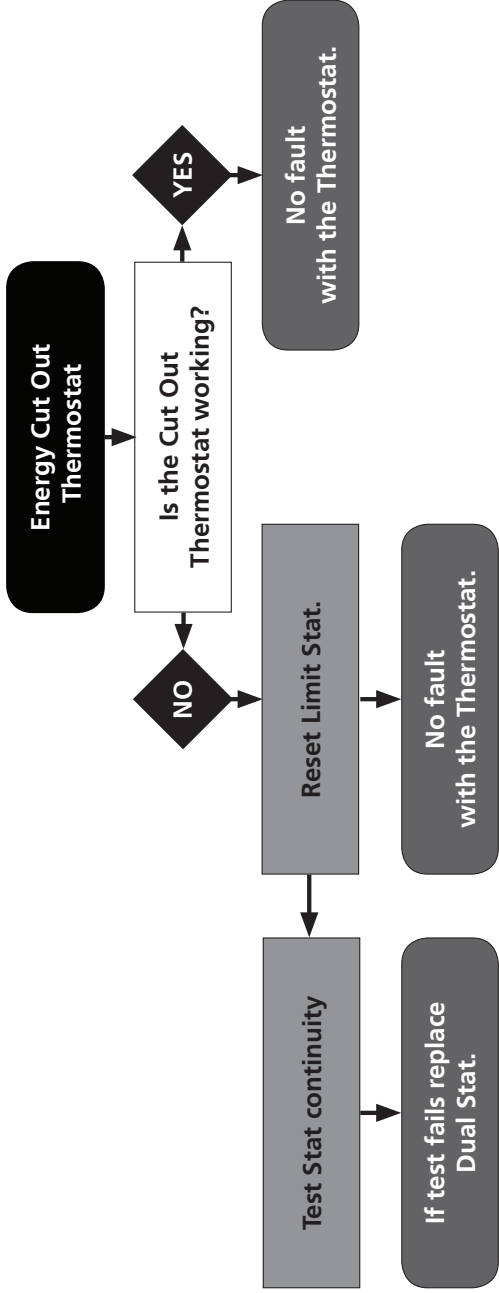
# IMMERSION HEATER

Fault Finding Information



# ENERGY CUT OUT

Fault Finding Information



# MAINS PRESSURE HOT WATER STORAGE SYSTEM COMMISSIONING CHECKLIST

This Commissioning Checklist is to be completed in full by the competent person who commissioned the storage system as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission this equipment to the manufacturer's instructions may invalidate the warranty but does not affect statutory rights.

Customer Name \_\_\_\_\_ Telephone Number \_\_\_\_\_

Address \_\_\_\_\_

Cylinder Make and Model \_\_\_\_\_

Cylinder Serial Number \_\_\_\_\_

Commissioned by (print name) \_\_\_\_\_ Registered Operative ID Number \_\_\_\_\_

Company Name \_\_\_\_\_ Telephone Number \_\_\_\_\_

Company Address \_\_\_\_\_ Commissioning Date \_\_\_\_\_

## To be completed by the customer on receipt of a Building Regulations Compliance Certificate\*:

Building Regulation Notification Number (if applicable) \_\_\_\_\_

### ALL SYSTEMS PRIMARY SETTINGS (indirect heating only)

Is the primary circuit a sealed or open vented system? Sealed  Open

What is the maximum primary flow temperature? \_\_\_\_\_ °C

### ALL SYSTEMS

What is the incoming static cold water pressure at the inlet to the system? \_\_\_\_\_ bar

Has a strainer been cleaned of installation debris (if fitted)? Yes  No

Is the installation in a hard water area (above 200ppm)? Yes  No

If yes, has a water scale reducer been fitted? Yes  No

What type of scale reducer has been fitted? \_\_\_\_\_

What is the hot water thermostat set temperature? \_\_\_\_\_ °C

What is the maximum hot water flow rate at set thermostat temperature (measured at high flow outlet)? \_\_\_\_\_ l/min

Time and temperature controls have been fitted in compliance with Part L of the building Regulations? Yes

Type of control system (if applicable) Y Plan  S Plan  Other

Is the cylinder solar(or other renewable compatible)? Yes  No

What is the hot water temperature at the nearest outlet? \_\_\_\_\_ °C

All appropriate pipes have been insulated up to 1 meter or the point where they become concealed Yes

### UNVENTED SYSTEMS ONLY

Where is the pressure reducing valve situated (if fitted)? \_\_\_\_\_

What is the pressure reducing valve setting? \_\_\_\_\_ bar

Has a combined temperature and pressure relief valve and expansion valve been fitted and discharge tested? Yes  No

The tundish and discharge pipework have been connected and terminated to Part G of the Building Regulations Yes

Are all energy sources fitted with a cut out device? Yes  No

Has the expansion vessel or internal air space been checked? Yes  No

### THERMAL STORES ONLY

What store temperature is achievable? \_\_\_\_\_ °C

What is the maximum hot water temperature? \_\_\_\_\_ °C

### ALL INSTALLATIONS

The hot water system complies with the appropriate Building Regulations Yes

The system has been installed and commissioned in accordance with the manufacturer's instructions Yes

The system controls have been demonstrated and understood by the customer Yes

The manufacturer's literature, including Benchmark Checklist and Service Record, has been explained and left with the customer Yes

Commissioning Engineer's Signature \_\_\_\_\_

Customer's Signature \_\_\_\_\_

(To confirm satisfactory demonstration and receipt of manufacturer's literature)

\*All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.



# SERVICE RECORD

It is recommended that your hot water system is serviced regularly and that the appropriate Service Record is completed.

## Service Provider

Before completing the appropriate Service Record below, please ensure you have carried out the service as described in the manufacturer's instructions.

**SERVICE 1** Date \_\_\_\_\_  
Engineer Name \_\_\_\_\_  
Company Name \_\_\_\_\_  
Telephone Number \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Signature \_\_\_\_\_

**SERVICE 2** Date \_\_\_\_\_  
Engineer Name \_\_\_\_\_  
Company Name \_\_\_\_\_  
Telephone Number \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Signature \_\_\_\_\_

**SERVICE 3** Date \_\_\_\_\_  
Engineer Name \_\_\_\_\_  
Company Name \_\_\_\_\_  
Telephone Number \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Signature \_\_\_\_\_

**SERVICE 4** Date \_\_\_\_\_  
Engineer Name \_\_\_\_\_  
Company Name \_\_\_\_\_  
Telephone Number \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Signature \_\_\_\_\_

**SERVICE 5** Date \_\_\_\_\_  
Engineer Name \_\_\_\_\_  
Company Name \_\_\_\_\_  
Telephone Number \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Signature \_\_\_\_\_

**SERVICE 6** Date \_\_\_\_\_  
Engineer Name \_\_\_\_\_  
Company Name \_\_\_\_\_  
Telephone Number \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Signature \_\_\_\_\_

**SERVICE 7** Date \_\_\_\_\_  
Engineer Name \_\_\_\_\_  
Company Name \_\_\_\_\_  
Telephone Number \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Signature \_\_\_\_\_

**SERVICE 8** Date \_\_\_\_\_  
Engineer Name \_\_\_\_\_  
Company Name \_\_\_\_\_  
Telephone Number \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Signature \_\_\_\_\_

**SERVICE 9** Date \_\_\_\_\_  
Engineer Name \_\_\_\_\_  
Company Name \_\_\_\_\_  
Telephone Number \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Signature \_\_\_\_\_

**SERVICE 10** Date \_\_\_\_\_  
Engineer Name \_\_\_\_\_  
Company Name \_\_\_\_\_  
Telephone Number \_\_\_\_\_  
Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Signature \_\_\_\_\_





Essential Cylinder Information
Maximum water supply pressure - <b>16 Bar</b>
Immersed electric element rating - <b>3kW</b>
Operating pressure - <b>3 Bar</b>
Expansion vessel charge pressure - <b>3 Bar</b>
Expansion valve setting - <b>6 Bar</b>
Set opening pressure of combined T&P valve - <b>7 Bar</b>
Storage capacity - <b>See cylinder info table</b>
Mass of unit - <b>See cylinder data table</b>
Immersion heater length - <b>14"</b>
Maximum primary pressure (indirects only) - <b>3 Bar</b>

Standard Cylinder Data Table		Capacity (Litres)	Weight (Kg)(Empty)
Evocyl 90	Direct	90	21
	Indirect	88	23
Evocyl 120	Direct	120	26
	Indirect	118	30
Evocyl 150	Direct	150	33
	Indirect	148	38
	Direct Solar	148	38
	Solar Twin	147	40
Evocyl 180	Direct	180	38
	Indirect	178	42
	Direct Solar	178	42
	Solar Twin	177	45
Evocyl 210	Direct	210	41
	Indirect	208	45
	Direct Solar	208	45
	Solar Twin	207	48
Evocyl 250	Direct	250	46
	Indirect	248	51
	Direct Solar	248	51
	Solar Twin	247	53
Evocyl 300	Direct	300	55
	Indirect	298	60
	Direct Solar	298	60
	Solar Twin	297	63

Slimline Cylinder Data Table		Capacity (Litres)	Weight (Kg)(Empty)
Evocyl 60	Direct	60	21
	Indirect	58	23
Evocyl 90	Direct	120	25
	Indirect	118	27
Evocyl 120	Direct	150	31
	Indirect	148	36
Evocyl 150	Direct	180	39
	Indirect	178	45
	Direct Solar	178	47
	Solar Twin	177	49
Evocyl 180	Direct	210	45
	Indirect	208	50
	Direct Solar	208	53
	Solar Twin	207	55
Evocyl 210	Direct	250	48
	Indirect	248	53
	Direct Solar	248	55
	Solar Twin	247	58

### Therma Q

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