# WAVe



### Smart Heating and Hot Water Control

# ride the WAV**e** to smarter heating and hot water control



The Wave is the first of a new generation of Worcester controls. The Wave is a smart, internet-connected programmable control for central heating and hot water which can be operated using a smart device. The Wave's innovative programming enables it to have an 'intelligent conversation' with the boiler and take advantage of advanced control features such as weather and load compensation.

Simple to fit.

Simple to use.

Simply smarter.





## simple to fit

The Wave is easy to install as you can use your existing room thermostat cable to make the low voltage 2-core wire connection between the control and the boiler. All other connections are via the Wi-Fi network.

Unlike standard weather compensation controls, the Wave does not need an external wired sensor. Instead, the Wave uses online data which significantly reduces installation time and cost to the end user.

#### Wave compatible Greenstar boilers:\*\*

Combi Greenstar i Greenstar Si Compact Greenstar CDi Compact Greenstar CDi Classic<sup>†</sup> Greenstar Highflow CDi System\* Greenstar 12i System - 24i System^ Greenstar 27i System - 30i System Greenstar CDi Classic System<sup>†</sup> \*Provided optional integral diverter valve is installed \*Manufactured after 16th January 2007 with software version CF12.10 onwards.

^Manufactured after February 2011.

<sup>++</sup>Correct at time of printing. For the latest list of compatible boilers see the Worcester website.

Ideal for homes and small businesses, the Wave is compatible with many Greenstar gas-fired boilers as shown in the table below. It can also be retrofitted for use with some previous Worcester EMS-Bus appliances.

#### All you need is:

- Worcester Wave control Part number 7 716 192 072
- Compatible Worcester boiler
- Wi-Fi enabled broadband router 802.11 b/g
- The Wave app on a compatible Apple<sup>®</sup> or Android<sup>™</sup> device.







## simple to use

The Wave's intuitive and modern design ensures it is very simple to operate using either its in-built touchscreen or via the Wave app. Users simply download the Wave app to their compatible device to take control of their heating system from anywhere in the world where an internet connection is available.

There are no subscription fees or chargeable app add-ons, therefore updates to the app software are completely free of charge.

#### Wave compatible devices:\*

Apple<sup>®</sup> devices running iOS 5.1 and higher

Android<sup>™</sup> devices running 2.2, 2.3 or 4.0 and higher



An installation and operating manual is provided with each control and there are a number of helpful videos to provide further detail on specific functions.

Should you temporarily lose your internet connection, the Wave will continue to operate as an intelligent heating and hot water control simply by using the last saved programme settings.



The Wave app is intuitive and easy to navigate.



 $\ensuremath{\text{DID}}$  Modern condensing boilers are most efficient when the water temperature in the system is low. Weather and load compensation reduce water temperatures and therefore increase efficiency, without compromising user comfort.

\*Correct at time of printing.





## simply adaptable

### Adapting to the homeowner's needs.

Each Wave control is supplied with a pre-set programme that can then be easily modified to suit the user's requirements.

The Wave app is highly adaptable and can be programmed to 'pair' with up to eight smart devices, which it automatically senses when people are at home. However, sensing to an individual device can be turned off if required.

Unlike some other smart heating controls, the Wave can also programme the hot water settings, providing additional energy savings and comfort.

- On	
/ Off	~

The Wave will remember preferred programme settings to make these easily available and features a 'holiday programme', requiring just a start and finish date.

For security and peace of mind, all of the Wave's data is owned by the user, ensuring no information is shared with other parties.







## simply smarter

### Enhanced energy efficiency.

The Wave's advanced programming enables it to have an 'intelligent conversation' with the boiler to take advantage of control features such as weather and load compensation. This ensures that the boiler modulates its performance to meet the needs of each household, providing the optimum balance of comfort and efficiency.

The Wave app allows you to see a chart of your heating and hot water usage so that you can easily identify where potential savings could be made.



For example, when you turn your room temperature
down a leaf symbol will appear to indicate additiona
savings are being made.

#### ErP legislation

According to the ErP Directive (Energy-related Products Directive) the Wave is a Class VI control, the highest class amongst our range of controls, and therefore can improve system efficiency by up to 4%\* – resulting in lower fuel bills. For more information on ErP, please visit www.worcester-bosch.co.uk/erp



The Energy-related Products (ErP) directive is a new regulation set by the European Union and is designed to drive improvements in the efficiency and performance of heating and hot water products.



\*When installed with a gas-fired boiler the Wave is a Class V control giving a 3% system efficiency benefit. When the weather compensation feature is enabled it increases to 4% and becomes a Class VI control.







## simply worcester

### Peace of mind.

The Wave is the result of Worcester's considerable experience in the design of heating controls, combining tried and tested expertise with the latest smart technologies. In sourcing the boiler and controls from a single supplier you have the peace of mind that all components are designed to work in harmony with each other.

### Contact us.

Worcester's customer support team is recognised as one of the finest in the country.

Based in Worcester, our dedicated team of experienced technical experts provides answers to queries across the entire Worcester range for both current and past products. **Technical Helpline (Pre & Post Sales)** Tel: 0330 123 3366

**Training** Tel: 0330 123 9229

#### Enquiries

Email: service.mailbox@uk.bosch.com or telephone 0330 123 9559

Calls to 03 numbers cost no more than a national rate call to an 01 or 02 number and must count towards any inclusive minutes in the same way as 01 and 02 calls. These rules apply to calls from any type of line, including mobile, BT, other fixed phone line or payphone. Calls from mobiles and some other networks may vary. Calls to and from Bosch Thermotechnology Ltd may be recorded for training and quality assurance purposes.



## want to know more?

Here are a few frequently asked questions and answers to help you gain a more in-depth understanding of the Wave.

#### How much is the Wave app?

The Wave app including all future updates is free of charge.

#### Does the Wave come with a guarantee?

Yes, the Wave comes with a 2 year guarantee however it will also carry the same guarantee as the boiler, if the two are installed at the same time.

#### Can someone hack the Wave?

The data connection is encrypted. This means that the Wave is very secure.

#### Where is the best place to install the Wave in the home?

The Wave operates by sensing the air temperature therefore it's important that it is in a clear flow of air that is representative of the house. Industry guidance and good practice is to locate the thermostat in the hall or landing away from direct sunlight or secondary heating.

#### What happens if I lose my internet connection?

If the connection is lost, the Wave can be operated manually. However the timed heating and hot water programme will not function until the internet connection is re-established.

#### If I lose my smart phone can I still operate my heating?

Yes, the Wave can be controlled manually without the smart phone.

#### Does the Wave switch between British summer and winter time automatically?

Yes, when the Wave is first installed it will establish its location and set the time and date automatically. GMT updates also happen automatically.

#### Where is my data is stored?

One of the advantages of the Wave is that the data is not stored on the server – everything is stored on the Wave itself. Therefore the homeowner owns their data. The Wave automatically checks the server every night to see if any updates are available. These updates are then installed automatically meaning that they benefit from all updates to features and functionalities.

No, the Wave is currently only suitable to control one heating and one hot water zone.

requirement takes priority.

Can I use the Wave to control more than one zone e.g. more than one heating zone?

How many smart devices can be linked to the Wave and which one does the Wave 'listen' to? The Wave can be linked with up to 8 devices, the one with the highest central heating temperature



### Installation and Operating Manual



Important: Keep these instructions, with the serial number, in a safe place.





#### **Table of Contents**

1	Key to	o symbols and safety instructions	. 2
	1.1	Explanation of the symbols	. 2
	1.2	Safety instructions	. 2
2	Produ	Ict information Worcester Wave	. 3
	2.1	About the Worcester Wave	. 3
	2.2	Standard delivery	. 3
	2.3	Guarantee conditions	. 3
	2.4	Software version	. 3
	2.5	Operating data	. 4
	2.6	Data connection	. 4
	2.7	Helpful tips	. 4
	2.8	Touch screen	. 4
	2.8.1	Proximity detection	. 4
	2.8.2	Overview of the touch screen	. 4
3	Instal	lation	6
•	3 1	Initial inspection	6
	3.2	Choosing the installation location	. 0
	33	Connecting to the boiler	. 0
	3.0	Installation of the wall mounting plate	. 0 6
	3.4	Fitting/Removing the thermostat	. 0
	3.6	Using for the first time	. /
	361	Software undates to the Wave	. /
	362	Starting up the thermostat	. /
	363	Connecting to the Wi-Fi network	. ' 8
	3.6.4	Input password Wi-Fi network	. 8
4	Onors	ation	٥
4		Control Heating	
	4.1	Changing temperature setting	. 9 0
	4.1.1	Manual mode/time programme	10
	4.1.2	Hat Water	10
	4.2	Combi boilors	10
	4.2.1	Tomporarily adjusting the HW time programme	10
	4.2.2	Setting the HW permapently ON or OFF	11
	4.2.3	Other functions and setting time programme	11
-		finations	11
5	Speci		11
6	Maint	enance and troubleshooting	11
	6.1	Cleaning the touch screen	11
	6.2	Change Wi-Fi network or new network	
		password	11
	6.3	Troubleshooting	12
	6.3.1	After a power cut	12
	6.3.2	Reset thermostat	12
	6.3.3	Troubleshooting	13
7	ERP C	lass	14

#### 1 Key to symbols and safety instructions

#### 1.1 Explanation of the symbols

#### Information symbol

i	Important information is placed between two lines and indicated by the letter "i" in a
•	square.

#### Additional symbols

Symbol	Meaning		
1.	a numbered step in an action sequence		
•	a step in an action sequence		
→	a reference to a related part in the document or to other related documents		
1	a reference number to identify or refer to a part or item		
•	a list entry		
-	a list entry (second level)		

#### 1.2 Safety instructions

The Worcester Wave room thermostat is intended for regulating a boiler in your home.

- The installation must be carried out by a competent suitably trained person.
- Never dismantle the thermostat.
- · Avoid high temperatures, damp and a dusty environments.
- To prevent short circuits or damage to the Worcester Wave room thermostat: when cleaning, do not use water or cleaning agents (→ section 6.1).
- Before starting the installation of the Worcester Wave room thermostat, switch off the mains voltage.

#### Appliance operation

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children shall not play with the appliance.

Cleaning and user maintenance shall not be made by children without supervision.



#### 2 Product information Worcester Wave

#### 2.1 About the Worcester Wave

The Worcester Wave is a smart, internet-connected programmable room thermostat which allows you to control both your central heating and hot water. The Wave can be controlled and programmed using a compatible Apple iOS or Android device across an existing Wi-Fi network.

Simply download the Wave app to your device to take full control of your heating system from anywhere in the world where an internet connection is available.

The Wave's intuitive and modern design ensures it is very simple to operate using either its in-built touchscreen or the interface on the app via your smart phone or tablet from wherever you are.

The Wave app. allows you to make adjustments to your required room temperature whenever you like. It also allows you to choose the times that you want the hot water to be on, and what temperature your central heating should reach while it is on. It will allow you to select different temperatures in your home at different times of the day (and days of the week) to meet your comfort needs.

The Wave offers a host of innovative features including; Weather Compensation, Home Presence Detection and Load Compensation.

The Wave uses Load Compensation as standard to continuously monitor and control the room temperature during your programmed central heating times. This function offers energy savings compared to standard on/off controls. The compensation feature means that, rather than just switching the boiler on and off, it will adjust the flow temperature of the central heating water in line with your central heating set temperature. The smaller the difference between the actual temperature and the set-point temperature, the lower the flow temperature from the boiler. Load Compensation minimises boiler cycling so less energy is wasted in firing up the boiler after each 'off' cycle. Radiator temperature may be considerably lower than if controlled by an on/off thermostat, reducing temperature overshoot and increasing your comfort.

#### 2.2 Standard delivery



Fig. 1 Standard delivery

- [1] Wave
- [2] Wall mounting plate
- [3] Bag screws x2 and wall plugs x2
- [4] Installation/Operating manual

The following spare parts for the Wave are available from Worcester, Bosch Group:

- Wave wall mounting plate 7 738 110 059
- Installation/Operating manual 8716 117 251

The following accessories are available:

#### Wave app

• Free Worcester Wave app.



#### 2.3 Guarantee conditions

The Worcester Wave has a standard 2 year manufacturer's guarantee. See Worcester Wave app. which contains a link to the on-line registration system.

#### 2.4 Software version

When software upgrades are available, updates will be sent remotely. After an update, the touchscreen layout may vary from the image in this operating manual. The software version installed can be seen on the screen if the screen is locked for cleaning.

For the latest version of this document, visit www.worcesterbosch.co.uk/wave.

#### 2.5 Operating data

All data is stored in the Worcester Wave, no consumption data is stored on an external server or on the Internet. This protects your privacy.

More information regarding legal and privacy information can be viewed by visiting: www.worcester-bosch.co.uk/ homeowner/our-company/legal-and-privacy-information

If the Worcester Wave is disconnected, the data for that day is not stored.

#### 2.6 Data connection

- The Worcester Wave is only supported in the UK and Ireland.
- The Worcester Wave requires a Wi-Fi connection to your router.
  - The Worcester Wave supports open Wi-Fi-connections and Wi-Fi-connections encrypted with WEP 128, WPA and WPA2 protocols, WPA2 is the safest protocol and therefore has preference.
- The time setting of the Worcester Wave is available via an external server. If the Worcester Wave has not yet made a connection with this server, the Worcester Wave room thermostat can only be operated manually. Once the connection with the external server is created, the time on the Worcester Wave room thermostat is set.
- All the costs of creating a broadband Internet connection, the use of a smart device are your responsibility.
- The boiler type connected, determines which functions can be used. Visit www.worcester-bosch.co.uk/wave for an overview of which functions are available on which boiler.

### 2.7 Helpful tips

For help videos, see the Worcester Wave app:

- info>help>videos
- info>help>frequenctly asked questions (FAQ)

or www.worcester-bosch.co.uk/wave-FAQ

#### 2.8 Touch screen

#### 2.8.1 Proximity detection

A proximity sensor detects a presence in front of the touchscreen. This makes the touchscreen light up. If nothing is detected, the touchscreen will automatically go off after a while.

In the case of detection longer than 5 minutes, the touchscreen automatically goes off. After this, the touch screen can only be activated again by touching.

### 2.8.2 Overview of the touch screen



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Fig. 2 Overview touch screen

No.	Symbol	Description
1	Ŀ	Time programme
	<b>B</b>	Self-learning time programme <sup>1)</sup>
	ok	Confirm choice
	Ĉ	Holiday programme active
	*	Sunday feature active
	•)))	Wi-Fi
2		Manual mode
	1	Back (return to the previous screen/ function
3	$\bigcirc$	Active function
	$\bigcirc$	Inactive function

Table 1Description of symbols

No.	Symbol	Description		
4		Not connected to Internet server		
	() •X	No Wi-Fi connection		
	× (۵	No boiler connected		
	Ø	Eco-indication; temperature set is lower than the measured average.		
	~	Service question; information alert		
		Error		
		Last modification done via app. or presence detection.		
5	0	Time ring: ring is broken into one hour blocks with the current time indicated		
6	$\bigcirc$	Temperature indication time program, when there is a fault, the ring is orange.		
7		HW operation active; also visible during heating of the boiler.		
	۵	Boiler operating		
8	20.°c	Measured room temperature		
9	<b>22</b> . <sup>°</sup> 5	Set room temperature; only visible if this is not the same as measured temperature.		
10	^	Raise set temperature (inactive)		
	$\sim$	Lower set temperature (inactive)		
	$\sim$	Raise set temperature (active)		
	$\sim$	Lower set temperature (active)		

be seen on the innermost ring. The colour of the time block shows the action in the time programme:

- Red indicates that the set temperature in the time program is higher than the previous time block
- blue indicates that the set temperature in the time program is lower than the previous time block.

#### Additional symbols

Connections screen		
Symbol	Description	
6	EMS boiler	
•))	Wi-Fi	
	Internet	
V	Connected	
×	Not connected	

Table 2Connection screen symbols

HW mode screen		
Symbol Description		
-	HW manual mode active	
×	HW manual mode inactive	
•	HW timed mode active	
$\mathbf{X}^{\mathbb{D}}$	HW timed mode inactive	
V	Mode selected	

Table 3 HW mode screen symbols

Table 1Description of symbols

1) (www.worcester-bosch.co.uk/wave)

#### Time display

The time display is only visible if the time program is activated. The time display is broken down into one hour blocks and the pointer indicates the time. The actions of the time program can



#### 3 Installation

#### 3.1 Initial inspection

 Before installation, check that your Worcester boiler and the Worcester Wave are a compatible combination.

The Worcester Wave website has a list of compatible boilers. The requirements for fitting are:

- 2-wire EMS BUS connection between the boiler and the Worcester Wave.
- Broadband Internet access via Wi-Fi 802.11 b/g if the app. and Internet functionality are used.

#### 3.2 Choosing the installation location



A reference room is an area (for example the hallway or landing) in which the temperature is measured, which is representative of the whole home and where the most time is spent.

#### Installation in the reference room

 Fit the thermostat to an interior wall in the reference room. Ensure there is sufficient free space around the thermostat.



Fig. 3 Thermostat Installation - free space required



Fig. 4 Thermostat installation considerations

#### 3.3 Connecting to the boiler



See the installation instructions for the boiler for more information on connecting the thermostat.

The Wave connects to your boiler's EMS BUS connections only. Under no circumstances must the thermostat be connected to the boiler's 230 volt connections or external 230 volt supply.

Visit the Worcester Wave website and select "Is The Wave suitable for me", or contact an approved installer or Worcester, Bosch Group Technical Support team.

#### 3.4 Installation of the wall mounting plate



CAUTION: Thermostat connection. EMS BUS connections only.

 Do not connect the thermostat to the boiler mains voltage connection

The wall mounting plate can be fitted directly onto the wall, for example, in the location of the previous thermostat.



Ensure when installing on a junction box, that draughts cannot affect the measurement of the room temperature.

If necessary, fill the junction box with insulation material.

 Connect the thermostat cable (EMS BUS cable of the boiler) to the cable clamps on the wall plate. The connections are not polarity sensitive.



Fig. 5 Connecting the wall plate



#### 3.5 Fitting/Removing the thermostat

#### Fitting



*Fig.* 6 *Fitting the thermostat* 

- ▶ Hook the thermostat to the back of the wall plate [1].
- Press the bottom of the thermostat against the wall plate until you hear a "click" [2]. The thermostat is now locked.

#### Removing



Fig. 7 Removing the thermostat

- Unlock the thermostat by pressing the unlock button [1] under the front edge.
- Tilt the bottom of the thermostat up and remove it [2].

#### 3.6 Using for the first time

#### 3.6.1 Software updates to the Wave

The software is updated automatically, over your internet connection. Straight out of the box the Wave may not have the latest software installed, as a result, the full app. functionality may not yet be supported. The installed software version can be checked on the cleaning screen ( $\rightarrow$  Section 6.1, page 11).

#### 3.6.2 Starting up the thermostat

- Turn on the boiler, this provides power to the thermostat.
- Remove the plastic screen protector.

The Wave and boiler will link automatically:

- During the connection phase, the Boiler[1], Wi-Fi and internet connection icons are present.
- The thermostat establishes a connection with the boiler (indicated with a tick [2] next to the boiler connection icon [1]).



Fig. 8 Connection with the boiler

• The connection has been made with the boiler.



#### 3.6.3 Connecting to the Wi-Fi network



The Wave can only connect to "visible" networks. If the network that the Wave has to connect to is a "hidden network", this will have to be made "visible". After connection is made, the relevant network may be "hidden" again.

- Once connected to the boiler, the Worcester Wave will automatically look for Wi-Fi networks [1].
- The Wi-Fi networks possibilities are displayed [2].



Fig. 9 Selecting Wi-Fi network

- [1] Searching for networks
- [2] Network names
- [3] Up arrow key
- [4] OK (confirmation) key
- [5] Back key
- [6] Down arrow key

The display [2] shows the Wi-Fi networks found.

- Select the required Wi-Fi network using the arrow keys [3 and 6].
- ► Press the ④ key [4] to activate the selected Wi-Fi network. Protected Wi-Fi networks are recognised by a padlock.

If the Wi-Fi network is password-protected:

• Input the Wi-Fi network password ( $\rightarrow$  Section 3.6.4).

If the required Wi-Fi network is not found:

 Press the "back "key [5] to set the thermostat to the off-line mode.

Now the temperature can only be set manually on the screen.

Connection to the app. or Worcester Wave web-site is not possible.

Press the 🛞 key [4] to search again.



 $\rightarrow$  Section 6.3.3, page 13 for possible solutions to connection problems.

#### 3.6.4 Input password Wi-Fi network



The Wave uses the standard Wi-Fi protocol, do not use any \$-signs in your Wi-Fi router password.

 If necessary, remove the \$ sign from your router password.



Connecting and synchronising can take some time.

- ▶ Input the Wi-Fi network password.
- The password is entered with the keys [4].
- Use the shift key [3] to enter capital letters.
- Special punctuation symbols can be entered using the key [6].
- Each key [4] has several character options. By repeatedly
  pressing this key, the required character will appear on the
  entry line [7].
- An incorrectly entered character can be deleted with the "back"-key [5].
- Once the correct password has been entered, confirm the by pressing the "ok" key [1].



Fig. 10 Input Wi-Fi network password

#### Connecting to Wi-Fi network and internet

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- Firstly, connection with the Wi-Fi-network [1] is made, confirmed with a tick
- Secondly, connection to Internet [2] is made, confirmed with a tick



Fig. 11 Connecting to the Wi-Fi network and internet



Problem with making the connections? Refer to the Troubleshooting guide on page 13

- If all connections are made, the data is synchronised.
- The display will now show the basic screen.



Fig. 12 Basic screen

Download the Worcester Wave app. to your smart device from either:

#### Available on the ANDROID-APP OP Google play

- ► Install the Worcester Wave app. onto your smart device
- Make a connection to the Worcester Wave from your smart device
- Register the app. with the Worcester Wave website.
- ► Enter the unique access code (→ label on the front page)
- Set a personal password, of your choice, and record this on the front of these operating instructions.

#### 4 Operation

i	The touch screen is intended for limited manual operation, for all other operations and
	programming the Worcester Wave app. on your smart device must be used.

#### 4.1 Central Heating

#### 4.1.1 Changing temperature setting

The touch screen lights up when approached. Changing the temperature may be done in the following 3 ways.

#### Swipe



Fig. 13 Swipe

Swipe down or up to change the temperature.

#### Тар





• Tap above or below the temperature shown to change it.



#### Hold (Long press)

 Press and hold an up or down key to change the displayed temperature quickly.

#### 4.1.2 Manual mode/time programme

The time programme can only be set using the Worcester Wave app. on your smart device.



Fig. 15 Choose manual mode/time programme

- [1] Manual mode ring
- [2] Time mode ring
- Briefly press the manual mode or time program key to switch between these functions.

#### 4.2 Hot Water

#### 4.2.1 Combi boilers

The boiler preheat function must be enabled to allow the Wave to take control of your hot water.

Refer to your combi boiler user guide to enable the preheat function, i.e. turn the ECO function off.

For combi boilers the hot water screens are only accessible when the hot water control is enable by you in the app.

#### 4.2.2 Temporarily adjusting the HW time programme

Tap the "Time programme" icon twice to enter the HW timed function, tap either the "HW timed" icon to switch the hot water ON until the next time period or "HW not timed" icon to switch the hot water OFF until the next time period.

Tap the "back" icon to return to the normal screen.



Fig. 16 Hot water screens



#### 4.2.3 Setting the HW permanently ON or OFF

Tap the "manual" (hand) icon twice to enter the function, tap either the HW icon for permanently ON or the "no HW" icon for permanently OFF.

Tap the "back" icon to return to the normal screen.

Hot water will now remain permanently in this selected state until the 'Time programme' icon is selected.



Fig. 17 Permanently ON or OFF

#### 4.3 Other functions and setting time programme

#### Use app.

With the Worcester Wave app, different functions can be used and the time programme for central heating and HW can be changed.

To help you become familiar with the Worcester Wave app there are a number of useful videos available via the Worcester website. These videos can also be accessed via the app 'Info' pages.

#### Online

There are a number of different functions available in the Worcester Wave app, depending upon your boiler model. Visit www.worcester-bosch.co.uk/wave

#### 5 Specifications

Description	Unit	Value
Voltage supply	V DC	14.3 to 16.0
Consumption (maximum)	W	0.9
Dimensions (L x W x H)	mm	100 x 145 x 27
Weight	g	250
Permissible operating temp.	°C	0 to 45
Permissible relative humidity	%	10 to 90
Connection (Wi-Fi)		802.11b/g

Table 4 Specifications

#### 6 Maintenance and troubleshooting

#### 6.1 Cleaning the touch screen

Swipe from left to right to lock the touch screen.

The screen is now locked and the installed software version is displayed on the screen.



Fig. 18 Touch screen protection

Clean the touch screen within 15 seconds with a clean, dry cloth.

#### 6.2 Change Wi-Fi network or new network password

To log the Worcester Wave onto a new Wi-Fi network or if the existing network has a new password:

- Reset the thermostat ( $\rightarrow$  Section 6.3.2).
- Follow the step to set a Wi-Fi network ( $\rightarrow$  Section 3.6.3).



#### 6.3 Troubleshooting



Fault messages from the boiler are visible on the display and are sent automatically from the thermostat to the Worcester Wave app.

#### 6.3.1 After a power cut

All settings are saved during a power cut. After the connection is re-established with the Wi-Fi network, the settings will be synchronised with the external server.

• Check the date and time setting

If a connection can **not** be made with a Wi-Fi network, the date and time settings can be applied through a direct Wi-Fi connection with the app. from a smart device. Date and time are automatically synchronised.

#### 6.3.2 Reset thermostat

If the Worcester Wave no longer works properly, it can be disconnected briefly from the wall plate and then re-attached( $\rightarrow$  Fig. 7, page 7).

If this does not solve the problem, with the Wave mounted on the wall, the reset key ( $\rightarrow$  Fig. 19) can be pressed for a few seconds to remove the fault. If the fault occurs again, then contact the your installer or Worcester, Bosch Group Technical Support team.



Reset!

Using the reset key deletes all personal settings and the Wi-Fi connection has to be set up again.



Fig. 19 Reset



#### 6.3.3 Troubleshooting

Visit www.worcester-bosch.co.uk/wave-FAQ for a full list of frequently asked questions.

Error	Remedy			
No Wi-Fi connection	The Wi-Fi signal from the Wi-Fi router is possibly not strong enough. Fit a Wi-Fi repeater.			
Wi-Fi network not found	Hide function of the Wi-Fi-router is possibly switched on or broadcast function (transmitting the SSID) is switched off. Temporarily switch the hide-function off or broadcast-function on.			
This display remains on	Wi-Fi network is possibly protected with "WEP64" protocol. This protocol is not supported. Change the safety protocol of the router.			
IP address	There is no IP-address allocated by the router yet. This can take some time. It may be necessary to manually allocate an IP-address in the router ( $\rightarrow$ router manual).			
New router or Wi-Fi network installed	Remove the thermostat from the wall plate, wait 10 seconds and then click the thermostat back onto the wall plate. All Wi-Fi networks found are shown on the display ( $\rightarrow$ Section 3.6.3).			
Time ring on the thermostat not shown	Connection to the server is broken. Wait until the connection is restored.			
Serial number and access code missing	The serial number and the access code are both on the label on the front of these instructions and also on the label on the back of the thermostat. If an app. is used to log in, the serial number and the access code can be shown in the app. by going via the "Info" menu to the submenu "product information". If the serial number and the access code cannot be found, then contact the Worcester, Bosch Group technical support.			
App cannot connect too the thermostat	Is the thermostat connected to the Internet ( $\rightarrow$ 3.6.3)? Are the serial number and the access code input correctly? Please note, these are case-sensitive. There is possibly a delay in establishing the connection. Wait for a few minutes.			
Touch screen locked, timer counting down	A horizontal swipe across the display makes the touch screen inactive. The touch-screen is the locked for 15 seconds to be cleaned. The touch screen may be locked in the app, check the app and unlock if necessary.			
Temperature displayed is too high or too low	In the app, the temperature shown can be calibrated ( $\rightarrow$ refer to www.worcester-bosch.co.uk/ wave/FAQ).			
Touchscreen will not come on	If there is detection for longer than 5 minutes, the screen goes off automatically. After this, the screen can only be activated again by touching.			
Symbol visible on the screen	There is no connection to the Internet server, wait until the connection to the Internet server is restored automatically. Once started, the boiler can only be controlled manually, no time programme is available.			
Password with \$ signs	The Wave uses the standard Wi-Fi protocol, so it is not possible to use a \$-sign in the Wi-Fi router password. Remove the \$ sign from the router password.			
stays on	Symbol disappears when the temperature is changed via the display or when the next switching point is reached in the time programme mode.			
No full app. functionality.	Straight out of the box, the latest software version may not be installed on the Wave, as a result functionality may not yet be supported by the Wave. The software is updated automatically, this can possibly take a few days.			
Symbol visible on the screen	Indication of one of the following messages: repeated ignition attempts, Worcester boiler gives maintenance message. This relates to an information signal. The boiler runs normally.			
No software updates received in the Wave	The software is updated automatically and a continuous Internet connection is required for this. If the router is not on continually, updates may be missed.			

Table 5 Troubleshooting list



#### 7 ERP Class

The data represented in the table below is required for the completion of Energy Related Product (ErP) Directive System Package fiche and, subsequently, the ErP system data label. ERP Labelling obligation applicable from 26th September 2015.

0 ľ		50.01		Additional seasonal space heating
Supplier	Model	ERp Class	wave function and ERP description	efficiency gain
Worcester, Bosch	Wave	V	Load compensation (factory setting ON)	+3%
Group			Modulating room thermostat, for use with modulating heaters: An electronic room thermostat that varies the flow temperature of the water leaving the heater dependant upon measured room temperature deviation from room thermostat set point. Control is achieved by modulating the output of the heater.	
Worcester, Bosch	Wave	VI	Weather compensation	+4%
Group			Weather compensator and room sensor, for use with modulating heaters: A heater flow temperature control that varies the flow temperature of water leaving the heater dependant upon prevailing outside temperature and selected weather compensation curve. A room temperature sensor monitors room temperature and adjusts the compensation curve parallel displacement to improve room comfort. Control is achieved by modulating the output of the heater.	



#### Notes

#### WORCESTER, BOSCH GROUP:

TECHNICAL SUPPORT:	0330 123 3366
APPOINTMENTS:	0330 123 9339
SPARES:	0330 123 9779
LITERATURE:	0330 123 9119
TRAINING:	0330 123 0166
SALES:	0330 123 9669

Worcester, Bosch Group Cotswold Way, Warndon, Worcester WR4 9SW. Tel. 0330 123 9559 Worcester, Bosch Group is a brand name of Bosch Thermotechnology Ltd.

www.worcester-bosch.co.uk/wave



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