NEXT

User manual Installation and Servicing instructions

Important: This appliance is a domestic gas fired hot water heater and is intended for domestic use only



INSTANTANEOUS MULTIPOINT GAS WATER HEATER TYPE C

ARISTON

NEXT SFT 14



Country of destination GB, IE

User manual

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1. GENERAL INFORMATION

The Next SFT Water Heater is a room sealed, fanned flue, mulitpoint water heater.

The appliance has been designed for domestic use only and to be connected to a mains cold water supply with a minimum pressure of 0.5 bar.

A permanent electrical connection is required and should be provided by use of a fused spur. The electrical supply should be via a double pole isolating switch with 3mm contact separation in both poles.

If the appliance is installed in a bathroom the fused spur must be located externally to the bathroom.

NOTE: Under the gas safety and use regs 1984, it is the law that all gas appliances are installed by a Gas Safe Registered Engineer.

Failure to install the appliance in accordance with all current regulations will result in the guarantee becoming void.

In hard water areas the use of a scale reducer is recommended. See 3.8.2

Guarantee

The guarantee on this appliance is valid for 12 months from the date of installation, provided it has been installed in accordance with this manual, with all current regulations and used solely for the purpose described in this manual.

Failure to comply with this will result in the guarantee becoming void.



Warning!!

Water with a temperature higher than 50° cause serious burns.

Always verify water temperature before use.

Warning!!

The device must be activated only in presence of water in the exchanger.

1.1. CE labelling

The CE mark guarantees that the appliance conforms to the following directives:

- 2009/142/CEE relating to gas appliances
- 2004/108/EC relating to electromagnetic compatibility
- 2006/95/EC relating to electrical safety

1.2. Safety regulations

Key to symbols:

Failure to comply with this warning implies the risk of personal injury, in some circumstances even fatal



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personal injury, in some circumstances even fatal Failure to comply with this warning implies the risk

of damage, in some circumstances even serious, to property, plants or animals.

Do not perform operations which involve opening the appliance.

- \triangle Electrocution from live components.
 - Personal injury caused by burns due to overheated components, or wounds caused by sharp edges or protrusions.

Do not perform operations which involve removing the appliance from its installation space .

A Electrocution from live components.

Flooding caused by water leaking from disconnected piping. Explosions, fires or intoxication caused by gas leaking from disconnected piping.

Do not damage the power supply cable.

Electrocution from live uninsulated wires.
 Do not leave anything on top of the appliance.

A Personal injury caused by an object falling off the appliance as a result of vibrations. Damage to the appliance or items underneath it caused by the object falling off as a result of vibrations.

Do not climb onto the appliance.

▲ Personal injury caused by the appliance falling. Damage to the appliance or any objects underneath it caused by the appliance falling away from its installation space

Do not climb onto chairs, stools, ladders or unstable supports to clean the appliance.

- Personal injury caused by falling from a height or cuts (stepladders shutting accidentally).
 Do not attempt to clean the appliance without first switching it off and turning the external switch to the OFF
- position.▲▲■■<
- to clean the appliance. Δ Damage to plastic and painted parts.
- Do not use the appliance for any use other than normal domestic use.
- Damage to the appliance caused by operation overload.
 Damage caused to objects treated inappropriately.
 Do not allow children or inexperienced individuals to operate the appliance.
- △ Damage to the appliance caused by improper use. If you detect a smell of burning or smoke coming from the appliance, disconnect it from the electricity supply, turn off the main gas valve, open all windows and call for assistance.
- $\underline{\wedge}$ Personal injury caused by burns, smoke inhalation, intoxication.

If there is a strong smell of gas, turn off the main gas valve, open all windows and call for assistance.

 \triangle Explosions, fires or intoxication.

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 instruction 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.

2. user instructions

2. Users Instructions

2.1. Control Panel



2.1.2. Display

Γ

		- Water temperature indication (°C) - Signal error codes
SET RESET		Water demand in progress
	*	Fan active
*	SET	The display visualises the set temperature
4	RESET	Air pressure switch error (see 5.1)

2.2. Initial Set-Up

IMPORTANT:

The installing technician should explain to the user how the water heater works, the safety devices it includes and how to use it.

Before turning the water heater on, it should be connected to the electrical mains via a double pole isolating switch with 3mm contact separation in both poles.

- Make sure that gas is supplied to the water heater (valve on gas pipe open) and purge any air as necessary
- Make sure that the electrical supply is turned on.

2.3. Ignition procedure

- ensure that the isolation valve located on the cold water inlet is open
- ensure that the gas isolation valve is open
- ensure that the electrical supply is turned on.

When pressing ON/OFF button "2", the display activates.

SET C

The appliance is ready to operate The set temperature is indicated on the display.



By opening a hot water tap, the appliance automatically starts operating.

The display shows the effective temperature and the flame indicates the burner ignition.



Warning!! Water with a temperature higher than 50°C can cause serious burns. Always verify water temperature before use.

Note: If the device does not operate, ensure that the gas and/ or cold water isolation valves are open.

Ensure that the appliance is electrically powered.

When closing the tap, the appliance automatically switches off and the flame symbol disappears from the display.

2.4. Water temperature adjustment

Press keys 3 and 4 to set the hot water temperature. The new value will be indicated on the display



It's possible to increase the temperature up to 48 °C. To select higher temperatures (50,55,60,65) push button **"4"** for few seconds. The display shows 50 °C, by pressing button **"4"** again the temperature is increased (in steps of 5 C) up to a maximum of 65 °C.

WARNING!!!

The factory set temperature is 42°C. Pay attention when adjusting water temperature higher than 50°C, burns may occur during the draw off phase.

2.5. Bath Function

The Bath function can be used to specify an amount of hot water to be dispensed at a selected temperature.

While the appliance is in standby, press the Bath button; 10 (x10L) will appear on the display = 100 litres.

Use buttons 3 and 4 to set the amount, from a minimum of 1 (10 litres) to a maximum of 99 (990 litres).

Press the Bath button to memorise this amount.

The selected temperature appears on the display and can be adjusted, if necessary, using buttons 3 and 4.

Press the Bath button (1) to store the selected temperature.

The **e** symbol flashes while the amount and temperature values are being set.

Function activation is indicated by the **x10L** symbol.

The hot water request activates litre metering; the count can be viewed on the display.

The temperature can also be adjusted while it is being dispensed.

The selected temperature and the dispensed litre count flash alternately on the display.



The appliance will emit a noise to indicate that the set litre value has almost been reached:

5 litres from the set value by means of an intermittent sound

- 1 litre from the set value by means of a continuous sound. When the set amount has been reached, the sound stops and the appliance reverts to the temperature selected before the Bath function was activated.

If the request stops before the set amount is reached, the function is deactivated.

The function can be deactivated by pressing the Bath button twice.

The function is deactivated within 3 minutes if no requests are made.

Note: The litre metering cannot be accurate to the exact litre, and is only intended as an indicative measurement.

2.6. Switching off procedure

Press the ON/OFF button **"2"**, to switch off the appliance. The display indicates only two hyphens. To switch off the device completely, turn the external electric switch off and close the gas isolation valve.



2.7. Appliance shut-off conditions

The appliance is protected from malfunctions by means of internal checks performed by the electronic P.C.B., which stops the appliance from operating if necessary.

In case of shut-off, the flame symbol disappears from the display, which indicates an error code – see table below.

To reset the appliance, hold down the ON/OFF button and release when the word RESET appears.

Should the error signal persist, switch off the appliance, close the gas isolation valve, turn the external electric switch off



and contact a qualified technician. **Error code table**

Error code	Description	
After pressing the ON/OFF key, the control board switches off		 Ensure that the device is electrically powered.
R 1	No flame detected	 Ensure that the gas isolation valve is open Hold down the ON / OFF button. The appliance starts the RESET procedure. Release the button as soon as the RESET message appears.

Should the error code be not indicated in the table, close the gas isolation valve, turn the external electrical switch off and contact a qualified technician.

SHOULD THE ERROR NOT BE ELIMINATED, DO NOT ACTIVATE THE APPLIANCE.

2.8 Anti-freeze protection

Should the appliance be installed where pipes are subjected to freezing, it is recommended to empty it.

- Proceed as indicated below:
- Turn the outer electrical switch to the OFF position
- Close the gas isolation valve
- Close the cold water inlet isolation valve

- Open the DHW taps until both the appliance and pipes are completely emptied.

To fill the appliance again, open the cold water inlet isolation valve together with DHW taps until water flows steadily from all taps.

Installation and servicing instructions (Only for Gas Safe Registered Engineers)

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7. Terms and conditions of guarantee.....

3.1. Description of the Appliance

NEXT SFT water heaters are room sealed instantaneous gas fired water heaters, with electronic ignition and ionisation safety devices, they have a modulating burner and are connected to the mains water supply; they provide domestic hot water.

Their self-contained combustion chambers with fans for the intake of external air and the extraction of combustion products, allow them to operate totally independently from the room in which they are installed.



Main components :

- 1. FRAME including the bracket for hanging the water heater.
- 2. SEALED CHAMBER BASE, which, together with the casing, forms the combustion chamber
- 3. PRODUCTS EXTRACTION SET which includes the extractor body, fan, air pressure switch and coaxial outlet duct \emptyset 60-100
- 4. FAN for expelling the combustion gases to the outside through the tube \emptyset 60 and to take in air from outside the chamber
- 5. HEATING BODY made of copper
- 6. BURNER made of stainless steel which works with natural gas. Distributor fitted with injectors.
- 7. ELECTRODES for ignition and flame sensor which works by ionisation
- 8. GAS VALVE fitted with two safety valves, manual power rating selection, automatic power modulation according to the flow of water and gradual progressive lighting of the burner.
- 9. WATER VALVE fitted with an automatic water flow regulator and with a manual temperature selector

Legend

- 1. Flue spigot
- 2. Combustion hood
- 3. Overheat thermostat
- 4. Detection electrode
- 5. P.C.B.
- 6. Fan
- 7. Hot water temperature sensor
- 8. Air pressure switch
- 9. Cold water inlet filter
- 10. Inlet water temperature probe
- 11. Gas valve
- 12. Water flow switch
- 13. Gas collector
- 14. Spark generator
- 15. Ignition electrode
- 16. Thermal fuse
- 18. Heat exchanger
- 10. ELECTRICAL POWER SUPPLY AND CONTROL: Supplies the water heater with 1.5 V from the mains supply at 220-230 V a.c. Supplies the fan and, through the air pressure switch, controls the extraction of the combustion products.
- 11. ELECTRONIC CIRCUIT for igniting the flame and controlling it by means of ionisation.
- 12. AIR PRESSURE SWITCH which cuts off the intake of gas to the burner if waste products are not expelled correctly
- 13. COAXIAL OUTLET Ø 60-100
- 14. ELECTRICAL SUPPLY CABLE
- 15. HEAT EXCHANGER

3.2. Safety regulations

Key to symbols:



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Failure to comply with this warning implies the risk of personal injury, in some circumstances even fatal Failure to comply with this warning implies the risk of damage, in some circumstances even serious, to property, plants or animals.

Install the appliance on a solid wall which is not subject to vibration.

Noisiness during operation. When drilling holes in the wall for installation purposes, take care not to damage any electrical wiring or existing piping.

▲ ▲ Electrocution caused by contact with live wires. Explosions, fires or asphyxiation caused by gas leaking from damaged piping. Damage to existing installations. Flooding caused by water leaking from damaged piping.

Perform all electrical connections using wires which have a suitable section.

Fire caused by overheating due to electrical current passing through undersized cables.

Protect all connection pipes and wires in order to prevent them from being damaged.

▲ ▲ Electrocution caused by contact with live wires. Explosions, fires or asphyxiation caused by gas leaking from damaged piping. Flooding caused by water leaking from damaged piping.

Make sure the installation site and any systems to which the appliance must be connected comply with the applicable norms in force.

▲ Clectrocution caused by contact with live wires which have been installed incorrectly. Damage to the appliance caused by improper operating conditions.

> Use suitable manual tools and equipment (make sure in particular that the tool is not worn out and that its handle is fixed properly); use them correctly and make sure they do not fall from a height. Replace them once you have finished using them.

▲ Personal injury from the falling splinters or fragments, inhalation of dust, shocks, cuts, pricks and abrasions. Damage to the appliance or surrounding objects caused by falling splinters, knocks and incisions.

Use electrical equipment suitable for its intended use (in particular, make sure that the power supply cable and plug are intact and that the parts featuring rotary or reciprocating motions are fastened correctly); use this equipment correctly; do not obstruct passageways with the power supply cable, make sure no equipment could fall from a height. Disconnect it and replace it safely after use.

▲ △ Personal injury caused by falling splinters or fragments, inhalation of dust, knocks, cuts, puncture wounds, abrasions, noise and vibration. Damage to the appliance or surrounding objects caused by falling splinters, knocks and incisions.

> Make sure any portable ladders are positioned securely, that they are suitably strong and that the steps are intact and not slippery and do not wobble when someone climbs them. Ensure someone provides supervision at all times.

Personal injury caused by falling from a height or cuts (stepladders shutting accidentally).

Make sure any rolling ladders are positioned securely, that they are suitably strong, that the steps are intact and not slippery and that the ladders are fitted with handrails on either side of the ladder and parapets on the landing.

Personal injury caused by falling from a height.

During all work carried out at a certain height (generally with a difference in height of more than two metres), make sure that parapets are used to surround the work area or that individual harnesses are used to prevent falls. The space where any accidental fall may occur should be free from dangerous obstacles, and any impact upon falling should be cushioned by semirigid or deformable surfaces.

- Personal injury caused by falling from a height. Make sure the workplace has suitable hygiene and sanitary conditions in terms of lighting, ventilation and solidity of the structures.
- Personal injury caused by knocks, stumbling etc.
 Protect the appliance and all areas in the vicinity of the work place using suitable material.
- Damage to the appliance or surrounding objects caused by falling splinters, knocks and incisions.
 Handle the appliance with suitable protection and with care.
- Damage to the appliance or surrounding objects from shocks, knocks, incisions and squashing.

During all work procedures, wear individual protective clothing and equipment.

Personal injury caused by electrocution, falling splinters or fragments, inhalation of dust, shocks, cuts, puncture wounds, abrasions, noise and vibration.
Place all debris and equipment in such a way as to make movement easy and safe, avoiding the formation of any piles which could yield or collapse.

All operations inside the appliance must be performed with the necessary caution in order to avoid abrupt contact with sharp parts.

A Personal injury caused by cuts, puncture wounds and abrasions.

Reset all the safety and control functions affected by any work performed on the appliance and make sure they operate correctly before restarting the appliance.

 Explosions, fires or asphyxiation caused by gas leaks or an incorrect flue gas exhaust. Damage or shutdown of the appliance caused by out-of-control operation.
 Before handling, empty all components that may contain hot water, carrying out any bleeding if necessary.

Personal injury caused by burns.

Descale the components, in accordance with the instructions provided on the safety data sheet of the product used, airing the room, wearing protective clothing, avoid mixing different products, and protect the appliance and surrounding objects.

A A Person into co

Personal injury caused by acidic substances coming into contact with skin or eyes; inhaling or swallowing harmful chemical agents. Damage to the appliance or surrounding objects due to corrosion caused by acidic substances.

If you detect a smell of burning or smoke, keep clear of the appliance, disconnect it from the electricity supply, open all windows and contact the technician.

A Personal injury caused by burns, smoke inhalation, asphyxiation.

3.3. Technical Specification

Model name : NEXT SFT		14 FF
CE Certification (pin)	0051CM4057	
Туре		C13
Gas category		II2H3+
Maximum nominal heat input	kW	28.0
Minimum nominal heat input	kW	6.0
Maximum nominal heat output	kW	25.0
Minimum nominal heat output	kW	5.4
Domestic hot water temperature maximum	°C	65
Domestic hot water temperature minimum	°C	35
D.H.W. Nominal flow rate $\Delta T = 35^{\circ}C$	l/min	10.2
D.H.W. minium flow rate	l/min	\rightarrow 2
Water pressure maximum	bar	6
Water pressure minimum	bar	0.1
Flue fumes temperature at Maximum nominal heat input	°C	155.0
Flue fumes temperature at Minimum nominal heat input	°C	75.4
Ø Flue outlet & Air intake		60/100
Dimensions		
Height (Casing)*	mm	563
Width (Casing)*	mm	350
Depth (Casing)*	mm	130
Power supply voltage/frequency	V/Hz	230 / 50
Power consumption	W	42
Internal fuse		2A
Electric system grades of protection	IP	X4D
Minimum operating room temperature	°C	+5
Dry weight	Kg	12.8

* For overall dimensions see 3.6

3. installation

3.4. Operating Principle

Legend

- 1. Heat exchanger
- Overheat thermostat 2.
- Detection Electrode 3.
- 4. Burner
- 5. Fan
- 6. Outgoing water temperature sensor7. Air pressure switch
- 8. Safety valve
- 9. Cold water inlet filter
- 10. Water flow switch
- 11. Inlet water temperature probe
- 12. Gas valve
- 13. Ignition electrode



3.5. Electrical Circuit Diagram



Legend

- **Detection Electrode** 1.
- Gas valve 3.
- 4. Spark generator
- 5. Fan
- 6. Air pressure switch
- 7. Overheat thermostat
- 8. Modulator Gas valve
- 9. Thermal fuse
- 10. Water flow switch
- 11. Outgoing water temperature sensor
- 12. Inlet water temperature probe

Microswitch position

Madal	0.4.5	Microswitch			
Model	GAS	1	2	3	4
	G20	OFF	ON	OFF	OFF
NEXT SET 14	G31	OFF	ON	OFF	ON

3.6. Appliance Dimensions



3.7. Minimum clearances

In order to allow easy access to the appliance for maintenance operations.

The appliance must be installed in accordance with the clearances stated below.



3. installation

3.8. Reference Standards

In the United Kingdom, the installation and initial start up of the water heater must be by a Gas Safe Registered installer in accordance with the installation standards currently in effect, as well as with any and all local health and safety standards.

In the Republic of Ireland the installation and initial start up of the appliance must be carried out by a Competent Person in accordance with the current edition of I.S.813 "Domestic Gas Installations" and the current Building Regulations, reference should also be made to the current ETCI rules for electrical installation.

The installation of this appliance must be in accordance with the relevant requirements of the Local Building Regulations, the current I.E.E. Wiring Regulations, the bylaws of the local water authority. In Scotland, in accordance with the Building Standards (Scotland) Regulation and Health and Safety document No. 635, "Elelectricity at Work Regulations 1989" and in the Republic of Ireland with the current edition of I.S. 813 and the Local Building Regulations (IE).

C.O.S.H.H.

Materials used in the manufacture of this appliance are nonhazardous and no special precautions are required when servicing.

Codes of Practive

Installation should also comply with the following British Standards Code of Practice:

BS 5546	Installation of hot water supplies for domestic purposes
BS 5440	Flues
BS 5440	Air Supply
BS 6891	Installation of low pressure gas pipe
	up to 28mm
BS 7671	IEE Wiring Regulations
BS 5482	Installation of L.P.G.
BS 6798	Installation of gas-fired hot water boilers of rated input not exceeding 60 kW
BS 6700	Design, installation and services supplying water for domestic use

and in the Republic of Ireland in accordance with the following codes of practice:

I.S. 813 Domestic Gas Installations

Avoid installing the appliance where the air inlet can be polluted by chemical products such as chlorine (swimming pool area), or ammonia (hair dresser), or alkaline products (launderette).

3.8.1. Flue

Detailed information on flue assembly can be found in Section 4 "Fitting the Flue".

The appliance must be installed so that the flue terminal is exposed to the free passage of external air at all times and must not be installed in a place likely to cause nuisance. It must not be allowed to discharge into another room or space such as an outhouse or closed lean-to.

The terminal should be located with due regard for the damage or discolouration that might occur to buildings in the vicinity and consideration must also be given to adjacent boundaries. In cold or humid weather, water vapour may condense on leaving the flue terminal. The effect of such "pluming" must be considered.



The minimum acceptable clearances are shown below: The minimum acceptable clearances are shown below:

- A. Directly below an opening, window, etc 300 mm
- B. Above an opening, window, etc 300 mm
- C. Horizontally to an opening, window, etc 300 mm
- D. Below gutters, soils pipes or drain pipes 75 mm
- E. Below eaves 200 mm
- F. Below balconies or car port roof 200 mm
- G. From a vertical drain pipe or soil pipe 150 mm
- H. From an internal or external corner 300 mm
- I. Above ground roof or balcony level 300 mm
- J. From a surface facing the terminal 600 mm
- K. From a terminal facing the terminal 1200 mm
- L. From an opening in the car port into the dwelling 1200 mm
- M. Vertically from a terminal on the same wall 1500 mm
- N. Horizontally from a terminal on the same wall 300 mm

NOTE: THE FLUE MUST NOT BE INSTALLED IN A PLACE LIKELY TO CAUSE A NUISANCE.

Where terminals are situated less than 2.1 metres above the ground or are otherwise accessible by people a suitable guard must be fitted.

3.8.2. Installing the Water Heater



- B. Hot water outler 1/2"
- C. Gas inlet 3/4"
- **D.** Cold water inlet1/2"
- **G.** Drain valve Cold water inlet filter

The following elements are supplied with the heater :

- 1x 15 mm gas inlet isolation tap complete with washer
 1x 15 mm x1/2" swivel nut 90° brass connector for the hot water outlet complete with washer
- 1x 15 mm cold water inlet isolating valve complete with washer for the cold water inlet

The dimensions for installing the appliance are detailed in Sections 3.6 (page 13).

The device is equipped with a filter **"G"**, located on the cold water inlet. Periodically clean the hydraulic system, if dirt is present.

IMPORTANT !!

Do not activate the device without the filter.

IMPORTANT !!

If the unit is installed in a hard water area (\rightarrow 200 mg/l) it is necessary to install a water softener to reduce the formation of limescale in the heat exchanger.

The warranty does not cover damage caused by limescale.

IMPORTANT!!

As this appliance features a safety discharge valve rated at 8 bar, the inlet water pressure must be limited to a maximum of 6 bar, a pressure limiting valve must be fitted to prevent excessive pressure on the appliance. Should the discharge valve ever operate and it be found that a pressure limiting valve is not fitted, Ariston will not be held liable for any damage incurred.

3.8.3 Siting the Appliance

The location chosen for the appliance must permit the provision of a satisfactory flue termination (see page 14, Section 3.8.1). The location must also permit adequate space for servicing and air circulation around the appliance (see page 13, Section 3.7).

The appliance may be installed in any room or internal space, although particular attention is drawn to the current requirements of the current edition of BS7671, in Scotland, the electrical provisions of the Building Standards applicable in Scotland, and in Ireland in line with the electrical provisions of I.S. 813, with respect to the installation of a heater in a room or internal space containing a bath or shower.

Where a room sealed appliance is installed in a room containing a bath or shower, any electrical switch or appliance control using main electricity should be situated so that it cannot be touched by a person using the bath or shower, in line with current electrical regulations.

Where the installation of the appliance will be in an unusual location, special procedures may be necessary, the current edition of BS 5546 should be consulted.

In the event that the appliance is to be installed in a timber framed building, it should be fitted in accordance with the British Gas Document 'Guide for Gas Installations in Timber Framed Housing' reference DM2. If in doubt, advice must be sought from British Gas.

3.8.4 Gas Supply

An adequate sized gas meter must be connected to the service pipe. Where necessary the local gas supplier will arrange for the existing meter to be checked or for a suitable meter to be fitted.

Installation pipes should be fitted in accordance with BS 6891. Pipework from the meter must be of adequate size. Pipes of a smaller size than the gas connection must not be used.

The complete installation must be tested for gas tightness (see 4.5) and purged in accordance with the current edition of BS 6891.

3.8.5 Air Supply

The appliance does not require any purpose provided ventilation.

3.8.6 Electrical Supply

The appliance must be earthed.

The installation must be undertaken by a competent electrician and should be in accordance with the current edition of BS 7671.

Particular attention should be paid to cross bonding.

The appliance must be provided with a means of isolation. If installed in a bathroom, the means of isolation must be external to the bathroom or a double pole cord switch fitted. Acceptable methods of connection are:

- A switched double pole fused spur with 3mm contact separation on all poles.
- A double pole switch where the supply must be suitably fused 3A.
- An unswitched socket outlet complying with BS 1363.

A three core cable should be used and a heat resistant cable of 0.75 mm2 (24 x 0.2 mm) is considered suitable.

3.8.7 Removing the Outer Case

Loosen the screw behind the appliance that secures the outer case;

Release the two locks on the top of the casing and remove the case (See **6.1.2.**, page 22).

3. installation

IMPORTANT !!

 ${\bf B}{\bf e}$ sure to remove the display cable from the PCB before completely removing the casing.

3.8.8. Wall Mounting

Fix the water heater to the wall using suitably sized screws using both brackets at high and low level.

3.8.9. Connecting the Heater to the Water and Gas Supplies

Before connecting up the appliance it is necessary to thoroughly flush and purge the water and gas pipes in order to remove filings or other waste from them;

Connect the water heater using the corresponding washers and connectors which are supplied in the bag of accessories; Place the casing back on and secure it in place;

Replace the gas knob and the temperature selector knob;

IMPORTANT !!

The maximum inlet water pressure must be limited to 6 bar. If the water supply is more than 6 bar or subject to pressure fluctuations above 6 bar, a pressure limiting valve must be installed to limit the pressure to 6 bar maximum.

3.8.10. Sealing the Water Circuit

Open the water inlet tap into the appliance by turning the cold water inlet valve on the heater fully on. Bleed any air from the water pipes by opening all the taps: hot and cold. Then turn off all the taps and check for water tightness.

Sealing the Gas Circuit

IMPORTANT! Test for tightness in accordance with current regulations.

3.8.11. Connecting the Water Heater to the Electrical Mains

The water heater is fitted with an electrical supply cable for a 220-230V~50Hz mains supply.

It is to be connected to a single phase power supply with an earth.

In order to protect the heater it is necessary to have a bipolar switch with a minimum opening distance of 3mm.

IMPORTANT : Whenever carrying out an operation on the electrical installation of the heater, make sure that the heater is disconnected from the mains electrical supply

The new power cable is to have the same specifications as the one originally installed in the heater.

The means to isolate the power supply should be easily accessible.

3.8.12. Purging the Gas Supply

Once all the above checks are complete, it will be necessary to purge the gas supply of air. **Do not** under any circumstances attempt to purge the gas pipe of air by continually pressing the On/Off button to reset. If it is necessary to do this, you must wait at least three minutes between each press of the On/Off button.

3.9. FITTING THE FLUE

The appliance must not be installed with a flue supplied by another manufactuer.

The appliance is supplied ready for connection to a concentirc air intake and exhaust outlet system.

IMPORTANT !!

The flue duct must not be in contact with inflammable materials, a seperation of at least 5mm must be between the flue duct and structures or walls made of flammable materials. When replacing an old appliance, the flue must be changed.

Ensure the flue is not blocked, that the exhaust duct joints are fitted correctly and do not leak products of combustion into the air inlet.

3.9.1. Fitting the Coaxial Flue (Ø 60/100 Horizontal)

Contents of flue (3318643):

- 2X silicone o-ring (60mm)
- 1X elbow (90°)
- 2X wall seals (internal & external)
- 1X flue pipe including terminal
- 2X flue clamps
- 4X screws
- 2X flue clamp seals



Once the appliance has been temporarily postitioned on the wall, insert the elbow into the socket and rotate to the required position.

Note: It is possible to rotate the elbow 360° on its vertical axis.

Either using the dimensions in Fig. 2 or physically marking the corresponding wall, remove the appliance from the wall and drill a \emptyset 105mm hole for the flue.

Refit the appliance to the wall and proceed as follows:

- 1. Ensure the Ø60mm lip seals are correctly fitted to the inner flue elbow;
- 2. Attach the flue elbow to the appliance flue spigot and rotate the flue elbow to the desired position;
- 3. Insert the flue through the hole in the wall and connect the flue to the elbow ensuring that the inner flue engages into the elbow by 23mm
- 4. Ensure that the outer air duct protrudes through the wall a minimum of 20mm to ensure that the outer flue seal can be attached;
- 5. If the flue is too long, measure the distance to be cut off;
- 6. Remove the flue and cut to length;
- 7. Cut the inner flue to length, ensuring that the inner flue is 23mm longer that the outer flie;
- 8. When cutting the flue, ensure the cut is square and remove all burrs;
- Insert the flue through the wall and slide the inner decorative collar on the flue pipe;
- 10. Connect the flue to the elbow ensuring that the inner flue engages into the elbow by 23mm. Note: When engaging the flue pipe, ensure the lip seals remain in Position
- 11. Secure the appliance and the flue pipe to the elbow using the clamps, screws and seals.
- 12. When installing the flue, ensure it is installed horizontally, or falling slightly away fgrom the appliance to prevent rain ingress.
- 13. Make good the gap between the flue and the wall
- 14. Attach the outer wall seal to the flue.

3.9.2. Flue extensions

The flue may be extended beyond the terminal length up to a maximum of 4 metres in a straight line.

When installing extensions, ensure the exhaust socket is fully engaged and flue clamps securely tightened.

Ensure when extending the flue it is adequately supported (Ariston recommend 1 bracket per extension). Also, ensure that the flue is installed completely horizontally without dipping or sagging at the joints.

When terminating the flue, ensure it is installed horizontally, or falling slightly away from the appliance to prevent rain ingress.

3.9.3. Table of flue gas exhaust duct lengths

Туре		Maximum Extensio	Diameter of	
		NEXT S	pipe	
		MIN	MAX	(mm)
Coaxial System	C13	0.65	4	ø 60/100



3.9.4. Fitting the Coaxial Flue (Ø 60/100 Vertical)

IMPORTANT!!

The vertical starter with integral flue gas analysis point supplied with the flue kit must be used when terminating the flue vertically.

- Contents of vertical flue (3318645)
- 1 x Vertical flue terminal
- 1 x Vertical starter (with integrated test point)
- 1 x Flue clamp
- 2 x Screws
- 1 x Flue clamp seal
- 2 x lip seals (60mm)
- 1 x lip seal (100mm)

The vertical flue kit is supplied with a specially designed weather proof terminal fitted, it can be used with a flat or pitched roof. The vertical flue useable length with the pitched roof flashing are indicated in Fig. 5

Before proceeding to fit the flue, ensure that the maximum flue length has not been exceeded (See 3.9.3 Page 18);

Mark the position of the flue in the ceiling and/or roof (see fig. 5 for distance from wall to the centre of the flue), cut a hole through the ceiling and/or roof and fit the flashing plate to the roof;

NOTE: DO NOT cut the vertical flue kit

To connect the vertical flue kit to the boiler, first the vertical starter with integrated flue gas analysis test point must be push fitted onto the exhaust manifold and secured using the flue clamp and flue clamp seal;

The vertical flue then passes through the flashing plate and push fits into the vertical adaptor.

Note: Pay attention not to dislodge the lip seals in the vertical starter when engaging it onto the appliance and when inserting the vertical flue kit.

Should extensions be required they are available in 1 metre lengths. The vertical starter must always be connected directly to the appliance and the extensions installed between it and the vertical flue kit.

In the event that an extension piece needs to be shortened it must always be cut at the male end and it must be ensured that the inner flue and outer flue remain at the same length.

Note: When cutting the flue ensure that it is cut squarely and that all burrs are removed to ensure that when the flue is assembled the lip seals are not damaged upon insertion.

When utilising the vertical flue system, the flue must be adequately supported to prevent the weight of the flue being transferred to the appliance flue connection by using 1 flue bracket per extension.

When the flue passes through a ceiling or wooden floor, there must be an air gap between any part of the flue system and any combustible material. The use of a ceiling plate will facilitate this. As well as this, where a flue passes from one room to another a fire stop must be fitted to prevent the passage of smoke or fire, irrespective of the structural material through which the flue passes.



Fig. 5

4. Commissioning

Once the water heater installation has been completed, it is necessary to commision the appliance as follows:

4.1. Gas supply installation

Inspect the entire installation including the meter, test for tightness and purge, as described in BS 6891.

4.2. Checking electricity supply

Carry out preliminary checks for earth continuity, polarity, resistance to earth and short circuit.

Leave the appliance with the front cover fitted and the mains electrical supply isolated.

4.3. Lighting the appliance

Ensure that the gas and water isolation valves below the appliance are open;

Ensure that the gas supply is properly purged as BS 6891;

Open a hot water tap and ensure that all air is purged from the appliance and the pipes;

Switch on the mains electrical supply, and turn the appliance on at the On/Off switch;

Turn on a hot water tap;

The appliance will attempt to ignite, should this fail due to air in the gas pipe, the appliance will lock-out, it will be neccessary to reset the appliance as explained in Section 2.3 (page 4).

4.4. Setting the gas pressures



4.4.1. Supply working pressure check

- 1. Close the gas isolation valve
- 2. Loosen screw "b" and attach the pressure gauge connection pipe into the test nipple.
- 3. Open the gas isolation valve
- 4. Activate the appliance by opening a DHW tap. The supply pressure should correspond to the value established in relation to the type of gas for which the appliance is designed. WARNING!!

Should the working pressure be lower than that indicated on the Gas Summary Table, DO NOT ACTIVATE THE DEVICE. (Max. tolerance = 2 bar

- 5. Switch the appliance OFF by closing the DHW tap.
- 6. Close the gas isolation valve
- 7. When the check is over, tighten screw "b" and make sure it is securely in place
- 8. Open the gas isolation valve and check for tightness.

4.4.2. Checking the maximum pressure

- 1. Close the gas isolation valve
- 2. Loosen screw "a" and attach the manometer connection pipe onto the test nipple.
- 3. Open the gas isolation valve
- 4. Activate the appliance by opening a D.H.W. tap.
- Press the SW3 button (on the P.C.B.), the appliance is forced to maximum power. The display will show CM and a value from -9 to +9. Default value = 0
- The burner pressure should correspond to the value shown in the "Gas Settings" table. If it does not correspond adjust the potentiometer P2. To save the change, press the SW3 button.
- To exit, press SW3 and SW2 buttons simultaneously or press the ON/OFF button.
- 8. Close the D.H.W. tap.
- 9. Close the gas isolation valve
- 10. When the check is over, tighten screw "a" and make sure it is securely in place
- 11. Open the gas isolation valve and check for tightness.



4.4.3. Checking the minimum pressure

- 1. Close the gas isolation valve
- 2. Loosen screw "a" and attach the manometer connection pipe into the pipe tap.
- 3. Open the gas isolation valve
- 4. Activate the appliance by opening a D.H.W. tap.
- Press the SW2 button (on the P.C.B.), the appliance is forced to the minimum power. The display will show CL and a value from -9 to +9. Default value = 0
- 6. The burner pressure should correspond to the value shown in the "Gas Settings" table, in relation to the type of gas for which the appliance is designed. If it does not correspond adjust the potentiometer P1. To save the change, press the SW2 button.
- 7. To exit, press **SW3** and **SW2** buttons simultaneously or press the ON/OFF button.
- 8. Close the D.H.W. tap.
- 9. Close the gas isolation valve
- 10. When the check is over, tighten screw "a" and make sure it is securely in place
- 11. Open the gas isolation valve and check for tightnes.

4.4.4. Checking the gas rate

Ensure the appliance is gas rated, to check the appliance is burning the correct volume of gas at both maximum and minimum rate. (see 4.5 Gas settings table). Note: Permissible tolerance -5% / +10%

4.4.4. Completion

Once installation is complete, commission the appliance as instucted in Section **4**, page 19).

Instruct the end user on the following:

- How to switch off the appliance quickly and indicate the position of the electrical supply isolator.
- Explain to the end user that if the appliance is not to be used for long periods that it is advisable to drain the appliance to prevent damage in the event of it freezing.
- Advise the end user that to ensure safe and effective operation, the appliance must be serviced once a year by a Gas Safe registered engineer.
- Finally, leave these instructions with the end user.

4.5 Gas settings table

			NEXT	SFT 14	
			G20	G31	
lower Wobbe index (15°C, 1013 r	nbar)	MJ/m ³	45.67	70.69	
Gas inlet pressure		mbar	20	37	
Gas Burner Pressure MAX		mbar	10.8	10	
Gas Burner Pressure MIN		mbar	3.7	3.3	
Main Burner jets		nr.	15		
Ø burner jets		mm	1.5	1.1	
Max/min consumption	MAX		2.96	2.17	
$(15^{\circ}C, 1013 \text{ mbar})$ (NG = m3/h) (LPG = kg/h)	MIN		0.63	0.47	

4.6 Changing the type of gas

The appliance may be adjusted so that it may be used with LPG (G31) instead of Natural Gas (G20) or vice-versa. The adjustment must be performed by a Gas Safe Registered enginner using the special conversion kit.

5. Appliance shut-off conditions

The appliance is protected from malfunctions by means of internal checks performed by the electronic P.C.B., which stops the appliance from operating if necessary. In the event of the appliance being shut off in this manner, a

code appears on the control panel display which refers to the type of shut-off and the reason behind it.

Switch off the appliance. Make sure the external electric isolation switch is in the OFF position, shut off the gas isolation valve and contact a qualified technician.

5.1. Table summarising error codes

Error code	Description		
Control board	d - no display, after pressing the ON button	 There is no electrical supply Verify the electrical connection to the main unit Problem detected on the electronic card or fuse Replace the card or fuse. 	
A 1	No flame detected	 Gas isolation valve closed Open the valve and follow the activation procedure Check the ignition electrode Check the detection electrode 	
85	Overheating	- A temperature higher than 85°C has been detected. Check the water pressure	
🗲 Я З	Air pressure switch error The error is indicated by the symbol 📌 to follow the display shows the code	- Check the air pressure switch - Check the fan	
R 4	Flame lift	 Check the ignition electrode Check the detection electrode Check the supply voltage of the card Check the gas supply pressure Check the flue installation 	
R 5	Fan speed error		
R 6	Hot water temperature sensor error	- Check the Hot Water temperature sensor	
87	Cold water temperature sensor error	- Check the Cold Water temperature sensor	

6.1 Servicing instructions

To ensure efficient safe operation, it is recommended that the water heater is serviced annually by a competent person.

Before starting any servicing work, ensure both the gas and electrical supplies to the water heater are isolated and the water heater is cool.

Before and after servicing, a combustion analysis should be made via the flue sampling point.

After servicing, preliminary electrical system checks must be carried out to ensure electrical safety (i.e. polarity, earth continuity, resistance to earth and short circuit).

ANNUAL MAINTENANCE CHECKLIST

- 1. Visually check the appliance for correct installation;
- 2. Check the appliance for correct operation;
- 3. Check the flue and flue installation for correct siting, installation and that it is in good condition;
- 4. Remove the casing as described in Section 6.1.2;
- 5. Check the operation of the safety devices;
 - Air pressure switch
 - Overheat thermostat
 - Ionisation (flame detection)
- 6. Remove and clean the water flow switch;
- 7. Remove and clean the electrodes with an emery cloth;
- 8. Remove and clean the fan;
- 9. Remove and clean the burner injectors;
- 10. Replace all components, turn on the appliance and check correct operation;
- 11. Check the gas inlet pressure and correct working pressures (high and low fire) as described in Section 4.4;
- 12. Check the gas rate;
- 13. Check the water flow rate;
- 14. Check the combustion CO/CO^2 as described below;
- 15. Advise the customer of the correct use of the appliance;
- 16. Complete the necessary paperwork.

CHECKING COMBUSTION

- 1. Check the gas inlet pressure and correct working pressures (high and low fire) as described in Section 4.4);
- 2. Check the gas rate;
- 3. Check the flue and flue installation for correct siting, installation and that it is in good condition;
- 4. Before combustion analysis check, operate the appliance for 10 minutes to ensure it is up to temperature;
- 5. Turn on the flue gas analyser and remove the flue gas analysis test point on the flue accessory;
- Operate the appliance at maximum pressure as described in Section 4.2. Let the flue gas analyser stabilise and check the CO/CO² ratio;
- 7. Operate the appliance at minimum pressure as described in Section 4.2. Let the flue gas analyser stabilise and check the CO/CO^2 ratio;
- A reading greater than 0.004 is a good indication that the appliance combustion assembly is in need of a service (see action points below);

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- A reading less than or equal to 0.008 following a service is a good indication that an appliance is operating safely and will continue to operate until the next planned service date. Even though the reading is above the 0.004 trigger value;
- For readings greater than 0.008, additional checks should be carried out to ensure that the appliance is assembled, cleaned and operating as expected (see action points below).

ACTION POINTS

- Check for the following:
- Operating pressure at the gas meter
- Appliance operating burner pressures (high and low)
- Verify the gas rate at the meter test dial
- Burner clean, correctly assembled and positioned
- Clean injectors and check correct size
- Burner for damage
- Heat exchanger clean, fins are clean and unblocked
- No combustion products are recirculating causing vitiation

6.1.1 Replacement of parts

The life of individual components vary and they will need servicing or replacing as and when faults develop.

The fault finding sequence chart in **Section 6.4** will help to locate which component is the cause of any malfunction, and instructions for removal, inspection and replacement of the individual parts are given in the following pages.

6.1.2 To Gain General Access



2. Remove the front cover.

Pay attention to disconnect the display from the main PCB at the main PCB.



3. Important!!

Disconnect the connection cable at the main PCB and remove the front panel



6.1.3 Removing the air pressure switch



6.1.4 Removing the fan

1. Release the 2 the two fan fixing screws, and remove the silicon pipe



2. Disconnect the electrical connection from the main pcb



2. Remove the fan



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6.1.5 Removing the gas collector assembly

 1. Remove the earth connection
 A

 A
 Image: Connection



1. Release the 7 screws on the gas collector



3. Release the screw also dismounts the igniter bracket



4. Remove the gas collector



6.1.6 Removing the ignitor

1. Disconnect the electrical connections



2. Release the support bracket screw





6.1.7 Removing the ignition electrode



2. Remove the ignition electrode and disconnect the male/female connector



6.1.8 Removing the detection electrode





2. Remove the electrode and disconnect the electrical connection



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6.1.9 Removing the overheat thermostat

1. Remove electrical connections



2. Release the 2 screws and remove the overheat thermostat



6.1.10 Removing the hot water temperature probe

1. Remove the electrical connection



- 2. Turn off the cold water isolation valve
- **3.** Drain the appliance
- **4.** Release the 2 screws and remove the hot water temperature probe





6.1.11 Removing the inlet water temperature probe



6.1.12 Removing the water flow switch

1. Release the screw and disconnect the electrical connection





- **2.** Turn off the cold water isolation valve and drain the appliance
- **3.** Remove the clip from the pipe.

В



3. Remove the water flow switch



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6.1.13 Removing the inlet water filter

1. Release the filter



2. Remove the filter



6.1.4 Removing the main P.C.B.

1. Release the 2 screws and dismount the PCB



2. Remove all electrical connections from the PCB





6.1.15 Removing the display P.C.B.

1. Unhook the control panel and release the fixing



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6.1.16 Removing the gas valve

- **1.** Remove the gas collector as detailed in 6.1.5
- **2.** Release the screw, release the silicone pipe from the fan assembly and remove the gas valve





3. Disconnect all electrical connections



6.1.17 Removing the burner/heat exchanger





- 4. Remove the fan as detailed in paragraph. 6.1.4
- **5.** Release the 4 screws and dismount the heat exchanger, burner and combustion hood.



- 6. Remove the elctrodes and the overheat thermostat
- 7. Remove the combustion hood from the heat exchanger





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6.4 Fault finding chart





SHORT SPARES LIST

204	Temp Sensor	977227
210	Overheat Thermostat	65158036
211	Water Flow Sensor	65158445
303	Ignitor	65158405
307	Detection Electrode	65158248
308	Ignition Electrode	65158357
401	Gas Valve	6518231
501	Air Pressure Switch	10259000
503	Fan Assembly	65158259
601	PCB (Main)	65158542
603	PCB (Display)	65158540
604	Cable (Display Panel)	65158537

TERMS AND CONDITIONS OF GUARANTEE

Please read these terms and conditions which are in addition to any terms and conditions detailed in this book or any registration card supplied with your appliance.

A charge will be made to the owner of the appliance if:

- The reason for any service visit is as a direct result of a failure to install the appliance in accordance with the manufacturer's instructions.
- Your installer does not complete the necessary commissioning process and procedure as detailed in the Installation and Operating Instructions.
- Your appliance is not serviced on or before the 12 month anniversary of installation.
- Our service engineer calls as requested and the failure is a non-manufacturing defect.

Failure to pay an invoice for any such occurence will be assumed by ARISTON that you accept that your appliance has not been installed correctly and understand that any manufacturer's guarantee has been withdrawn. On the 12 month anniversary of the appliance installation, you must have it serviced to continue any guarantee offered into the following year. Failure to do so will invalidate your guarantee and should an ARISTON engineer be required to attend and no proof of service documentation is made available, then ARISTON will charge.

As part of the commissioning process, it is a legal requirement to register all installations or replacements with Gas Safe Register. ARISTON THERMO UK Ltd cannot be called upon to carry out any work under the manufacturer's guarantee without proof of registration. The registration number must be quoted when requesting a service visit, and the "Declaration of Safety" Certficate subsequently shown to the service engineer.

If the certificate is not made available, the engineer will not work on the appliance and a wasted call charge will be made.

Upon completion of the installation, the appliance must be registered at **www.ariston.co.uk/register** in order to activate the guarantee.

If you have a problem with commissioning on installation, please contact our Technical Department on +44 (0)333 240 7777

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