BOILER UNIT FOR GEO & AGA 4 IN 1 TAP

Installation & Commissioning Guide

AGA RANGEmaster

U110665-01a

Instructions for GEO and AGA 4 in 1 tap boiler units

Contents

1. Before you start...

Thank you for choosing this product. Due to the technical and feature rich nature of this product it is important that the product is installed, used and maintained in the manner described to ensure the product operates in a satisfying, reliable, and safe way.

You should read these instructions carefully before beginning installation, use or service.

Throughout this document symbols are used to highlight key information points or safety considerations.

= an information point or tip.

= a technical or safety consideration.

= a service, maintenance or care consideration.

(1a) = checklist action, an item that must be completed on the checklist within the relevant section number.

This product should only be installed into an internal domestic environment with an ambient temperature of between +10°C to +40°C.

Installation must be conducted by a qualified plumbing professional.

The installation of the unit must be performed by a competent person, taking into consideration:

- Health and Safety at Works Act
- IET Regulations
- BS Codes of Practice
- Local and National Building Regulations
- Local and National Water Regulations

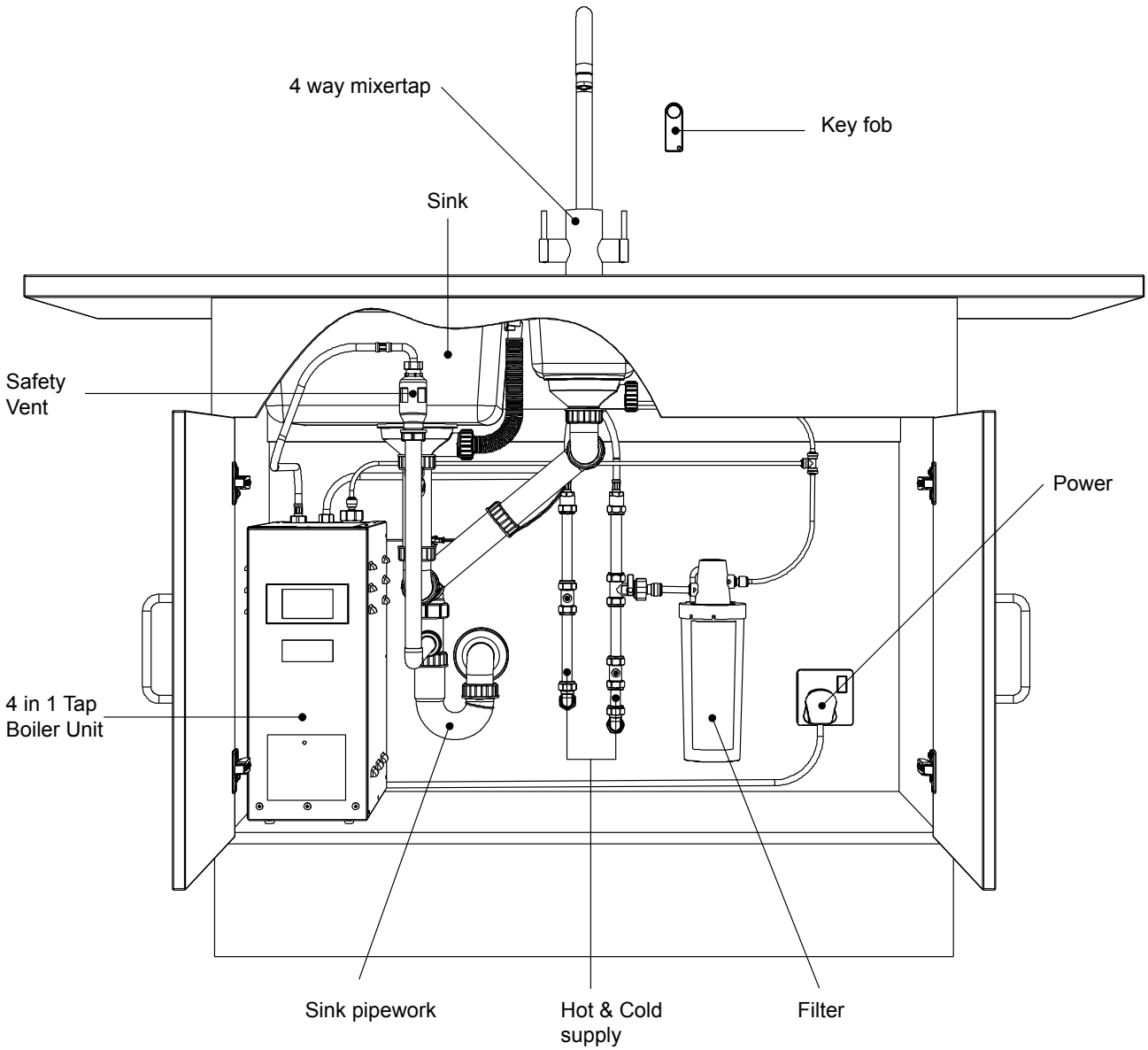
• WARNING: This appliance must only be used for

heating water.

If any of the information in this booklet is unclear or you need further assistance, please contact us using the details on the top of the boiler. You must not modify any component supplied or the installation methods described. Any electrical work must be undertaken by a certified professional.

2. Installation overview

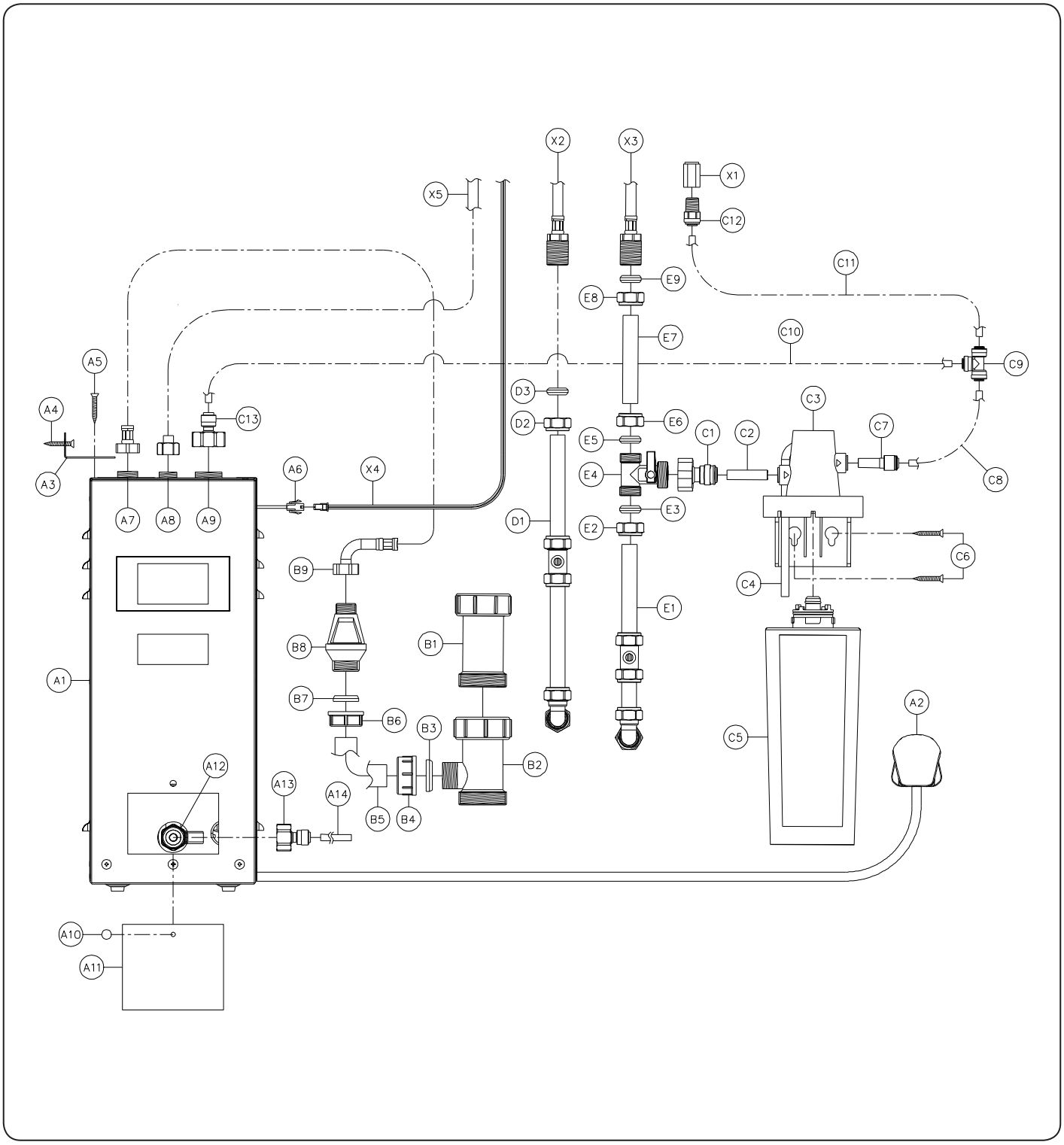
Below is an overview of a typical installation when completed. This can be used to familiarise yourself with the major system components, overall layout and terminology. The components can be moved to best suit the space available and will therefore likley differ from the layout below, once completed.



3. Parts and contents

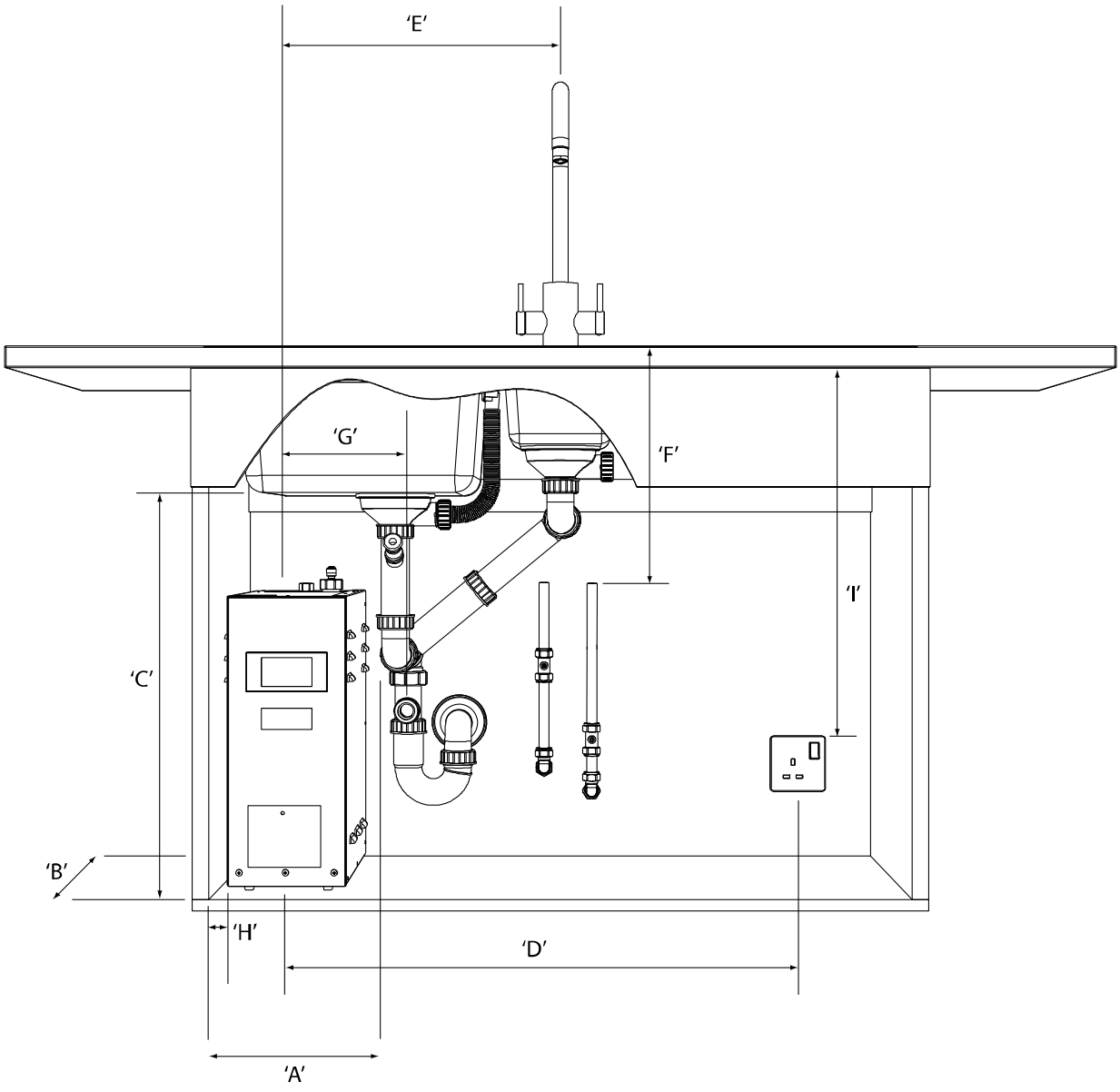
⚠ This drawing shows the boiler and filter system parts. The 'Key' code will be referred to throughout the manual.

NOTE: The tap will have a similar contents list but will vary according to the tap design. These are detailed within the separate installation booklet supplied with the mixertap.



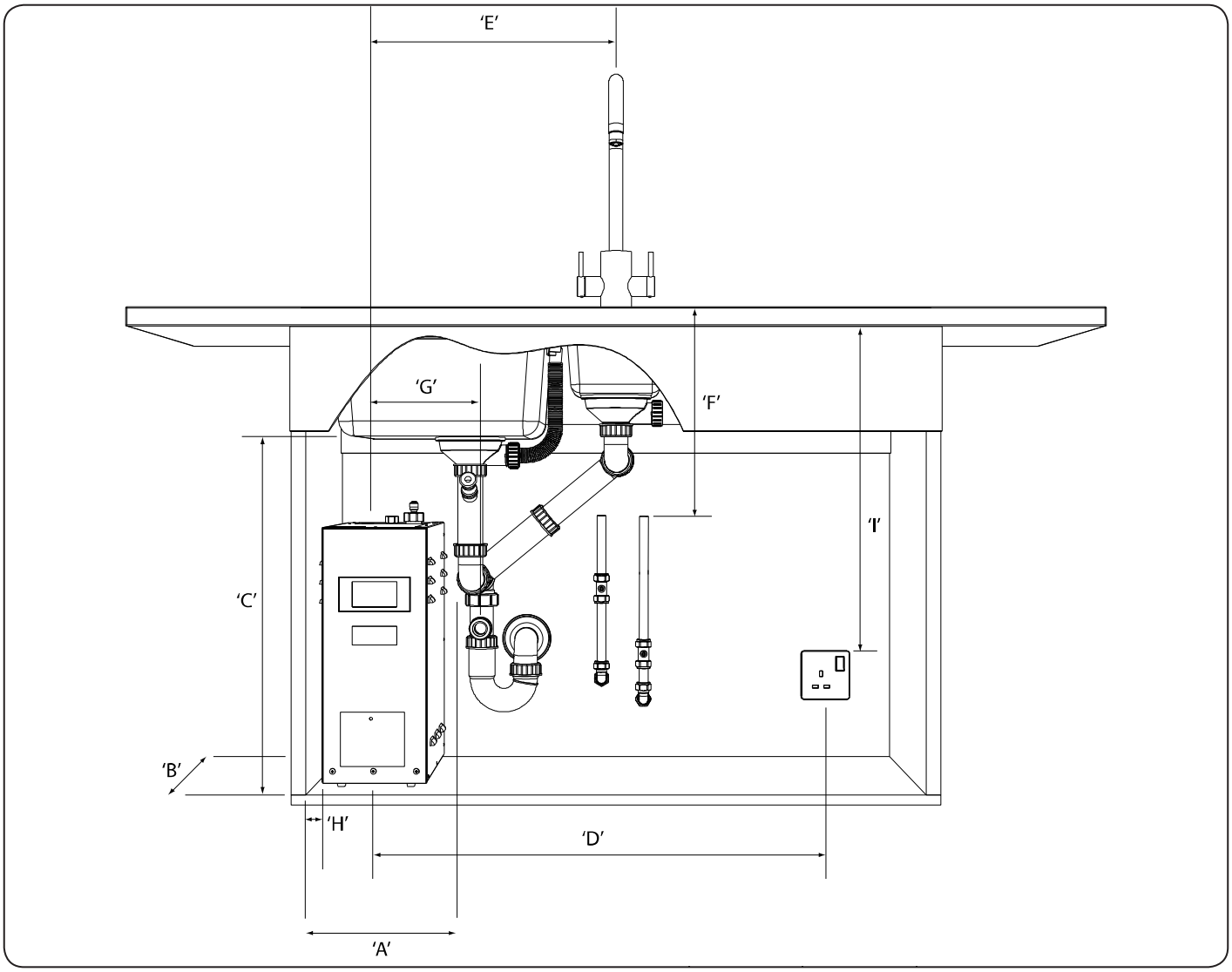
Key	Qty	Description
A1	1	Boiler unit
A2	1	1.5m Power lead
A3	1	Boiler mounting bracket
A4	1	Boiler bracket to base unit screw
A5	2	Boiler bracket screw
A6	1	Data connection lead
A7	1	½" Safety / steam / overflow vent outlet
A8	1	3/8" Hot water outlet
A9	1	¾" Filtered water inlet
A10	1	Screw – front panel
A11	1	Front panel
A12	1	Drain valve
A13	1	½" BSPF x ¼" push fit
A14	1	¼" tube (drain)
B1	1	1 ½" x 3" Waste extension piece (for use with one bowl sinks only)
B2	1	1 ½" x 1 ½" x 22mm Waste tee
B3	1	22mm Olive
B4	1	Plastic compression nut
B5	0	22mm copper pipe with elbow, installer fabricated to suit.
B6	1	Plastic compression nut
B7	1	22mm Olive
B8	1	½" x 22mm Tundish
B9	1	½" x ½" Vent hose
C1	1	¾" BSP x 3/8" push fit
C2	1	3/8" x 600mm tube (thicker tube type)
C3	1	Filter head (includes check valve)
C4	1	Flush / Drain pipe
C5	1	Filter cartridge
C6	2	Filter head screws
C7	1	3/8" stem x ¼" push fit
C8	1	¼" x 1500mm Tube (thinner tube type)
C9	1	¼" x ¼" x ¼" Push fit equal tee
C10	Part of C8	¼" x 1500mm Tube (cut to length as required from C8)
C11	Part of C8	¼" x 1500mm Tube (cut to length as required from C8)
C12	1	¼" NPTF x ¼" Push fit connector
C13	1	¾ BSPF x ¼"" push fit
D1	0	15mm copper pipe
D2	1	15mm Compression nut
D3	1	15mm Compression olive
E1	0	15mm copper pipe
E2	1	15mm Compression nut
E3	1	15mm Compression olive
E4	1	½" (15mm) x ½" (15mm) x ¾" 3 way isolating tee
E5	1	15mm Compression olive
E6	1	15mm Compression nut
E7	0	15mm copper pipe
E8	1	15mm Compression nut
E9	1	15mm Compression olive

☑ **(5a) Remove any protective plastic coating from the outer panels and check that all parts and the power cord are present and free from transport damage. In the event of missing or damaged parts, please contact the customer service department using the contact details marked on top of the product.**


'E'
'G'
'F'
'I'
'C'
'B'
'H'
'D'
'A'

4. Pre installation

1. ☑ **(5i)** Before commencing installation, you should check the required dimensions and surrounding services are in place and are suitable. If pre installation preparation work is required this must be completed before progressing.



Key	Qty	Min. Size	Max. Size	Comment
A	Inside cupboard wall to edge of sink waste pipes	180mm	n/a	
B	Cupboard depth	410mm	n/a	
C	Cupboard floor to underside of the sink	550mm	n/a	Includes height for descaler bottle access into vent.
D	Distance from boiler to fused electrical socket	BS 7671	1m	Also see checklist ☑ 5g
E	Distance from Boiler hot water output to tap hole	n/a	500mm	Without obstruction
F	Distance from hot and cold supplies to tap hole	n/a	250mm	Also see checklist ☑ 5d
G	Distance from boiler vent to tundish location	n/a	600mm	Otherwise produce a bespoke ventilation pipe, Also see checklist ☑ 5f
H	Safety air gap (or use wall fixing bracket)	10mm	n/a	Minimum size
I	Sink underside to socket top	300mm		Otherwise to regulations, must remain visible and accessible always.

☑ **(4c)** Check the water hardness value using either a test strip, digital meter or data from the supplying water companies website by postcode check. The required hardness measurement scale for the checklist is English °Clark. Please use the table below for any other measurement units of hardness to convert your result.

	mmol/L	ppm, mg/L	dGH, °dH, °dKH, °KH	gpg	°e, °Clark
mmol/L	1	0.009991	0.1783	0.171	0.1424
ppm, mg/L	100.1	1	17.85	17.12	14.25
dGH, °dH, °dKH, °KH	5.608	0.05603	1	0.9591	0.7986
gpg	5.847	0.05842	1.043	1	0.8327
°e, °Clark	7.022	0.07016	1.252	1.201	1

Simplified Example: 10 ppm = 0.7 e, °Clark.

If you need assistance with this step please contact the service agent noted on the top of the boiler.

2. ☑ **(5a) / (4b)** Check that the incoming static water pressures are correct accordingly to the table below:

Water source	Minimum static pressure*	Maximum static pressure*
☑ **(5c) Cold water supply**	2 bar	5.5 bar
☑ **(4b) Domestic hot water supply**	Varies according to tap design, refer to the tap instructions supplied.	5.5 bar

*When measured locally to the installation point. If the incoming pressure is too high even for short periods, this can result in damage. In this instance, a suitable pressure reducing valve must be installed upstream of the three way tee (E4) and/or before the hot water isolation valve. If the cold pressure is too low, the filter system and boiler will not function correctly and recovery time will be increased. If the hot pressure is too low, the tap flow rate may be unsatisfactory, spray features may not function and a desirable mixed water temperature may be unachievable. A balanced hot and cold water pressure is always preferred.

3. ☑ **(5d)** Check that the domestic hot and cold water pipes terminate with 15mm pipe and are within 250mm of the tap hole. Also ensure that both feed pipes have an accessible service (isolation) valve installed.

4. ☑ **(5e)** Attach a temporary hose to the cold isolation valve or pipe (E7) then flush the supply thoroughly down the sink drain or into a bucket. Check the water quality periodically in a clear container and continue until there is no debris or discolouration. Repeat this step for the hot supply isolation valve or pipe (D1).

5. ☑ **(5f)** Check that the sink drain pipe & waste is to EN274 1 ½" BSP thread and accepts the 1 ½" x 1 ½" x 22mm sink drain connection tee (B2). The sink waste tee and tundish arrangement must be within 600mm of the boiler vent output location in order to avoid needing to create a bespoke vent pipe.

6. ☑ **(5g)** Check that there is an available UK 13A 220-240 AC fused and switched socket with a power delivery appropriate to the rating plate, the socket position must be within the 1.5m reach of the boiler location and comply with local wiring regulations. The socket must be unobstructed and freely accessible at all times. **Note:** For safety reasons, extension leads must not be used.

7. ☑ **(5h)** Check that the sink or worktop tap hole is 35mm in diameter and is not greater than 40mm in thickness. The tap hole must be within 500mm of the boilers 98°C output connection (A8).

5. Vent, Tundish & Drain installation

The permanent vent hose and tundish are required according to Part G building regulations and are one of the many safety features supplied as standard with the boiler system. When the water is boiled a small amount of steam is expected to pass into the vent pipe then tundish and then condense into the sink drain. In normal operating conditions little or no water should be seen at tundish (B8). The plumbing parts supplied will connect to any 1 ½" drain plumbing conforming to EN274. If your drain connections are non-standard and don't suit the parts provided, you will need to obtain a McAlpine "clamp1wh" (or similar compliant part) to adapt your drain pipework accordingly.

1. Disconnect the sink drain pipework. The connector tee (B2) supplied has a standard 1 ½" thread to connect to UK & EU standard pipework.

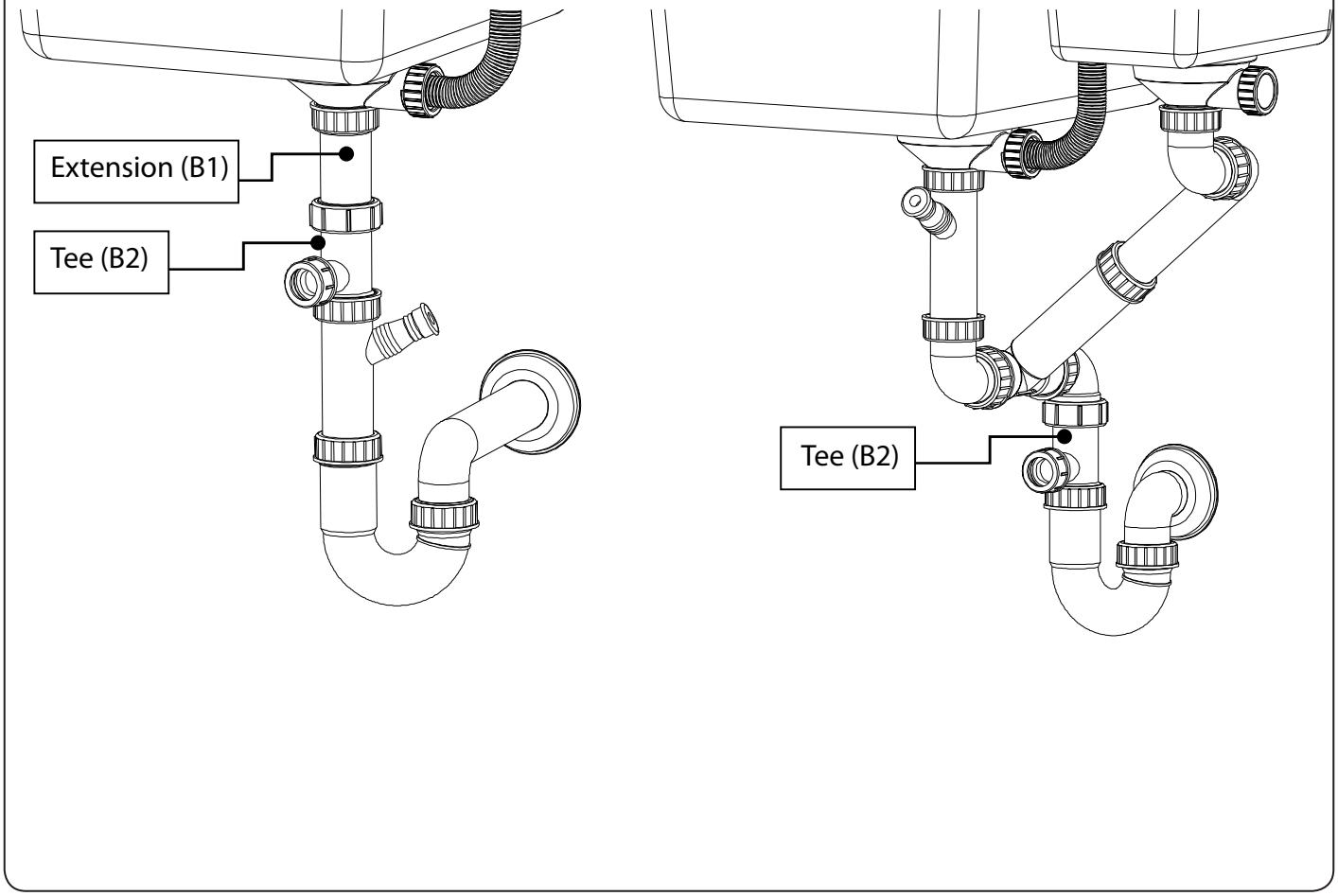
⚠ The tee (B2) must be inserted into the exiting sink drain pipework upstream of any P, U or bottle trap to reduce odours escaping from the drain.

One bowl sink

⚠ If required, use the extension piece (B1) to increase the maximum possible fall from the tundish (B8) before entering the tee (B2).

Two bowl sink

For a two bowl sink, the tee (B2) will normally connect after the union section from both sink bowls. Typically the extension (B1) will not be required for 2 bowl or one and a half bowl sinks.



The position will vary depending on the sink type and pipework type but below are two standard examples.Using 22mm copper pipe (B5) extend away from the tee (B2) using compression nut and olive (B4 & B3) towards the **front of the sink bowl**, as shown in the installation overview.

⚠ This near horizontal section of pipe must have a minimum fall of 1 in 200 (2 degrees).

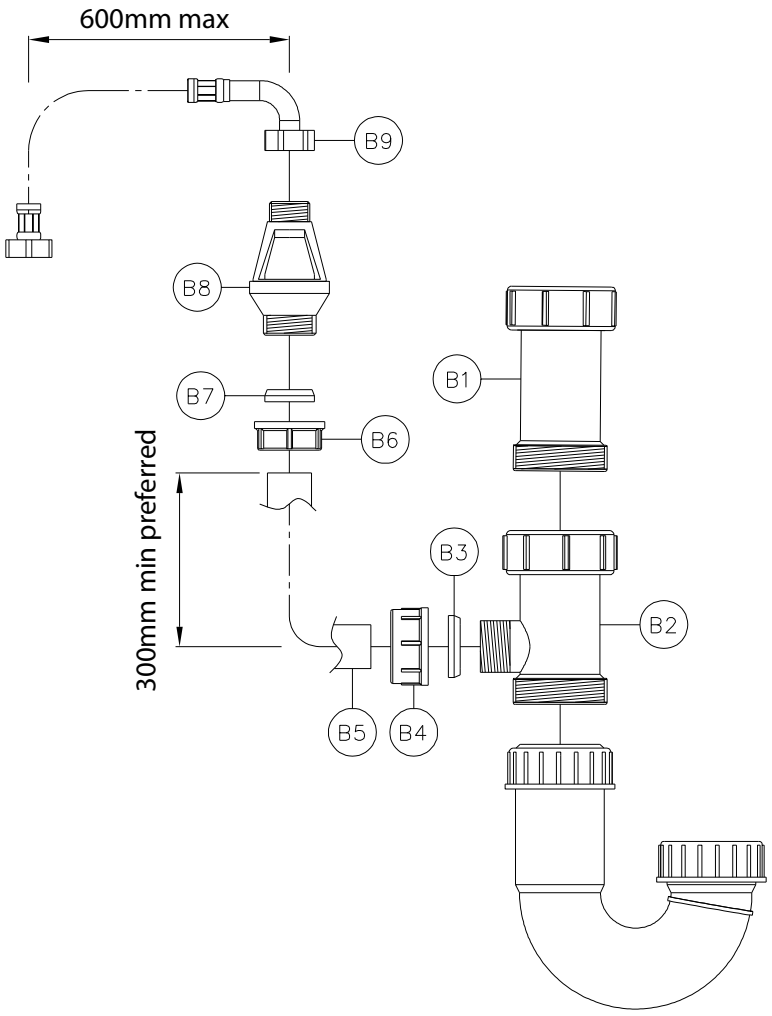
2. Add a 90° elbow (B5) and then extend the 22mm pipe upwards. In front of the sink bowl, leave sufficient space to add the tundish (B8) and vent pipe (B9) connections as shown.

⚠ This vertical section of pipe should preferably have a minimum length of 300mm.

3. Connect the tundish (B8) exit to the 22mm pipe (B5) using the plastic nut (B6) and olive (B7) supplied.

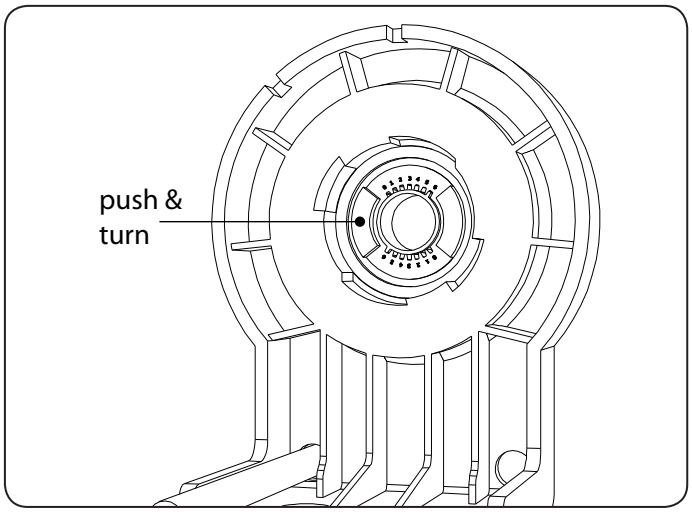
⚠ The tundish (B8) must be placed in front of the sink, where it will be easily visible to the customer. This way, any continuous flow of condensate or overflow discharge can be spotted immediately, indicating that there may be a problem.

ⓘ A suitable cable tie and fixing base can be used to help secure and support the vent and tundish arrangement if required, we suggest carefully securing around the 90° elbow of vent hose (B9).boil



6. Filter installation

The premium quality filter provided with the boiler system provides protection for the boiler and also give great tasting drinks. It is important to set up the filter correctly, according to the water hardness, to get the best results. Always establish the water hardness value at the installation site. This should have already been done as part of the preinstallation checklist ☑ (4c). The system is only design to treat municipally treated (mains) water supplies.



1. ☑ **(6a)** adjust the filter bypass valve in filter head (C3) to the appropriate level, according to your water hardness. Take the hardness reading from checklist ☑ (4c) and add 2° Clark (30ppm) to your result to allow for possible fluctuations in the supply hardness. Using the table below convert this new increased value to establish the appropriate bypass setting value.

2. Adjust the bypass setting and turn the head (C3) upside down. You will see a numbered central dial. Push, rotate then release the dial on the correct numbered setting 0 (hard) to 6 (not hard). A small plastic 'key' tool is provided with the filter head to make this easier. Write the bypass setting on the checklist ☑ (6a).

Hardness reading ☑ (4a) + 2° Clark (30ppm)		**Bypass setting**	**Capacity in litres* (scale reduction)**	**Capacity in litres** (chlorine reduction)**
°Clark (GB)	PPM			
5	70	6	3920	
6	90	6	3220	
8	107	6	2830	
9	125	6	2430	
10	143	6	2130	1700
11	161	6	1890	
13	179	6	1700	
14	196	6	1550	
15	214	6	1280	
16	232	6	1180	
18	250	6	1090	
19	268	6	1020	
20	286	6	960	
21	304	6	900	
24	339	6	810	
26	375	6	730	
29	411	6	670	
33	464	5	500	
36	518	5	440	
41	589	5	370	
48	679	5	340	

*Refers to the guideline maximum filter life for hard water scale reduction for vending usage.

** Refers to the guideline maximum filter life for chlorine reduction according to NSF/ANSI 42 at 12.5 °Clark.

Performance can vary depending on the water quality and usage patterns, filtered (non-boiled) and filtered (boiled) water use count towards the total filter usage. Data based on a flow rate of 2 L/min through the filter unit.

⚠ It is important to select the correct bypass level in order to set the correct balance between the filter life and protecting the boiler unit from scale. A scale conversation table is shown in the pre-installation section, if required.

3. Add a short section of 15mm copper pipe (E1) to cold isolation valve.

4. Attach the three way tee (E4) using compression nut and olive (E2 & E3).

5. Attach another stub of 15mm pipe (E7) to the 15mm (1/2") outlet of the tee (E4) using compression nut and olive (E5 & E6). The length of pipe (E7) will vary to allow connection to the taps cold flexible pipe (X3).

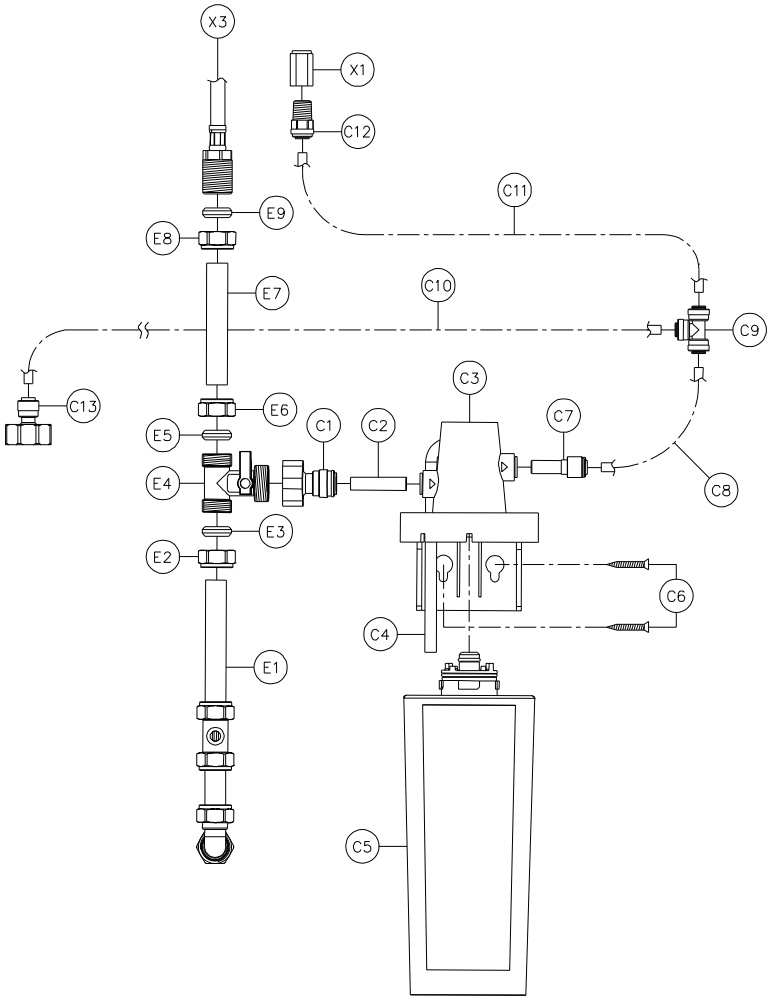
⚠ ensure the three way tee (E4) is in the closed position.

6. Screw the ¾" x 3/8" push fit (C1) onto the three way tee (E4), ensuring the isolation valve lever is in the off position as shown in the diagram.

7. ☑ **(6b)** Find a suitable location for the filter head (C3). It should be sited where the filter cartridge (C5) can be easily removed and replaced by the customer and within 600mm of tee (E4). We recommend installing the top of the filter head 525mm above any obstruction; otherwise you must leave a minimum clearance of 50mm under the filter cartridge (C5) to allow future replacement. Securely screw the filter head (C3) to the cabinet side or rear wall using the screws supplied (C6).

ⓘ The filter head can be mounted vertically or horizontally (though vertically is preferred) The filter head inlets are marked with arrows to indicate the direction of flow through the filter.

⚠ Do not locate the filter above the mains power socket.



⚠ 3/8" Blue pipe (C2) and ¼" blue pipe (C8,C10,C11) can be cut to differing lengths to those described to allow a tidy and secure installation regardless of the location of the filter, tap and boiler. All pipe ends should be cut squarely and cleanly using a sharp knife or pipe snipping tool, whilst avoiding crushing the pipe ends. Plan and use a piping route that does not risk kinking or stretching the pipe. For best performance and to help reduce flushing time required during each use of the tap, keep any excess pipe length to a minimum.

8. Measure and cut the required length of blue pipe (C2) to run between push fit (C1) and the filter head inlet (C3). Firmly push the blue pipe (C2) into both the push fit (C1) and the filter head inlet (C3) to secure the inlet pipe.

9. Firmly push the 3/8 stem x ¼" push fit adaptor (C7) into the filter head outlet (C3).

10. Cut a length of ¼" blue pipe (C8) and firmly push this into the push fit adaptor (C7).

11. Firmly attach the push fit tee (C9) to the end of this length of pipe (C8).

12. Cut a second length of pipe (C11) and firmly connect to the 3 way tee (C9). The pipe will need routing towards the tap inlet (X1/C12).

ⓘ Make pipe (C11) longer than the length required to reach the tap, as it can always be trimmed to length later.

13. Write the installation date on the filter label with permanent pen or similar.

14. Remove the dust cap from the filter cartridge (C5), then push the cartridge (C5) firmly into the head (C3) before twisting it left to right (as shown on diagram) until fully secured.

ⓘ The filter cartridge (C5) and head (C3) both have alignment marks to indicate when the filter is correctly and securely inserted.

⚠ The water hoses supplied are manufactured from WRAS approved materials. Please do not substitute or extend the hoses supplied with unknown hoses, as you risk tainting the taste of your water.

7. Installation

Boiler installation:

⚠ During installation this product may have hot surfaces and generates both hot water and steam. When installing, commissioning, draining, descaling and servicing this product, you should always use the correct personal protective wear and have sufficient professional qualifications, knowledge or training before proceeding. If in doubt, please contact us if you need clarification on anything.

⚠ This appliance is intended to be permanently connected to the water mains.

Installation Location:

⚠ This appliance is designed and tested only for indoors use and is to be installed in the method described within. Any deviation from the method described will result in poor performance and potentially introduce safety concerns.

⚠ The Boiler system must be located away from any other common domestic heat generating appliances. Also ensure that the ventilation slots in the side, base and rear are never obstructed. For example do not place the unit near a hot gas or electric burner.

⚠ This product is not suitable for installation areas where a water jet could be used.

⚠ For continued convenient use and service, the Boiler system must be installed so the user controls, mains power socket, and vent (A7) are accessible and unobstructed by the customer. Legally the customer must be able to easily remove the mains plug (A2) from the socket at all times.

⚠ Do not store or use petrol or other flammable vapours, liquids, paper, aerosol cans or rags in the vicinity of this or any other appliance. The 10mm air gaps as described earlier in this guide should be respected and not blocked at any time.

⚠ Where it is to be positioned in close proximity to walls, partitions, kitchen furniture, decorative finishes, etc., it Is recommended that they be made of noncombustible material, or if not, be clad with a suitable non-combustible heat insulating material. It is essential that close attention is be paid to fire prevention regulations and as such, a minimum air gap of 10mm on all sides of the unit must be observed.

⚠ Install only on a heat-resistant surface.

⚠ Do not block the ventilation slots in the base, side or rear of the boiler unit.

⚠ The supporting surface must be capable of supporting the product weight (including water) without deflection once full of water, the product must always be level both from side to side and front to back.

⚠ If any of the hoses supplied with this unit are suspected to be damaged, they must be replaced by a qualified person in order to avoid a hazard.

8. Connection

Connecting to the Electricity Supply:

⚠ This appliance must be earthed.

⚠ The boiler system must be installed meeting all local electrical regulations, any wiring leading to the mains socket must be performed by a qualified and certified professional in accordance with IET / BS 7671.

⚠ Part P building regulations. The available power supply must correspond to that shown on the product rating label. The appliance, sink (if stainless steel), tap, hot and cold supply pipes must be earth cross bonded in line with current regulations.

⚠ Do not let the mains lead run into or across an open space.

⚠ The mains lead (A2) should reach from the mains socket without straining the connections and keep it away from any hot surfaces.

⚠ If the supply cord is damaged, it must be replaced by the manufacturer, service agent or similar qualified person in order to avoid a hazard. The supply cord may become warm when the appliance is in use.

⚠ In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.

Fitting an alternate plug (if applicable):

The mains lead of this product will already be fitted with a BS1363 13A plug. If the fuse has to be replaced, use a 13 amp fuse complying with BS 1362.

If the plug is not suitable for your socket then the plug must be cut off and disposed of safely. An appropriate plug should be fitted as follows:

⚠ **IMPORTANT:** The wires in the mains lead are coloured in accordance with the following code:

Green and Yellow - Earth	Blue - Neutral	Brown - Live

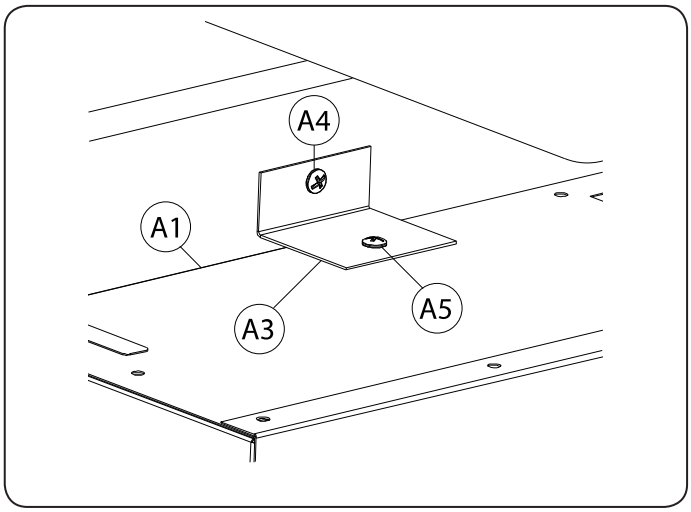
⚠ The wire which is coloured green and yellow must be connected to the terminal in the plug which is marked with the letter E or the earth symbol or coloured green or green and yellow.

⚠ The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black or blue.

⚠ The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red or brown.

⚠ Make sure that the connections are tight and that there are no loose strands of wire and no insulation trapped under the terminals. Tighten the clamp in the plug making sure that it grips the outer covering of the cord. If fitting a BS 1363 13A fused plug then fit a 13A fuse. Tighten the plug cover securely. If you are in any doubt, consult a qualified electrician.

9. Installing the boiler



1. If the access to the nearest mains socket for the boiler unit is through a kitchen unit wall then cut a 60mm diameter hole to allow the 13A plug to pass through freely, do not locate the hole underneath the Boiler. Then turn the socket off and plug in the boiler.

⚠ Do not use any extension lead between the wall socket and the boiler. Do not use an external switching device such as a timer or an intermittent power supply as this may inadvertently reset the thermal cut-out safety device.

2. The boiler must not be in an enclosed space, unless the rear of the cupboard is open to the atmosphere. If the cupboard is fully enclosed, you must drill a minimum 35mm diameter hole in the floor of the cupboard to allow adequate ventilation for the boiler. Do not locate the hole where it will interfere with the appliance feet, as this can lead to problems with levelling the boiler.

⚠ Without adequate ventilation for dry heat, you increase any fire risk. Accordingly you must not skip this step.

3. Plug the tap data extension lead (A6) into the corresponding data socket on the back of the boiler (A1).

4. Position the boiler (A1) in the cupboard, and ensure the boiler is level, both left to right and front to back. This must be checked with a spirit level to ensure accuracy.

⚠ The boiler must be level for the water level sensors in the tank to function correctly.

5. Once level, screw the boiler mounting bracket (A3) to the top panel of the boiler (A1) using screw (A5). The bracket can be mounted on either the left or right hand side of the boiler, dependent on the installation position relative to the cupboard wall.

6. An additional screw (A5) is supplied to blank off the unused fixing hole on the top of the boiler, attach this now.

7. Screw the boiler bracket (A3) to the cabinet wall using the screw (A4) provided. It is important to always double check that this is level.

⚠ The boiler should be fixed to the kitchen unit using the mounting bracket (A3) to prevent accidental damage if the boiler or its connections are moved or tipped over inadvertently. Ensure to put the second screw (A5) also in the unused mounting hole on the opposite face to prevent water ingress.

8. Screw the ¾" x ¼" push fit (C13) firmly onto the ¾" inlet socket (A9) of the boiler (A1).

9. Cut to length, then firmly connect the ¼" blue pipe (C10) from the ¼" 3 way tee (C9) into the ¾" x ¼" push fit (C13).

10. Connect the 90° elbow end of the flexible vent hose (B9) to the top of the tundish (B8).

11. Connect the straight end of the vent hose (B9) to the vent inlet (A7) on boiler (A1), do not overtighten this connections as it will need to be disconnected later by the user only by hand.

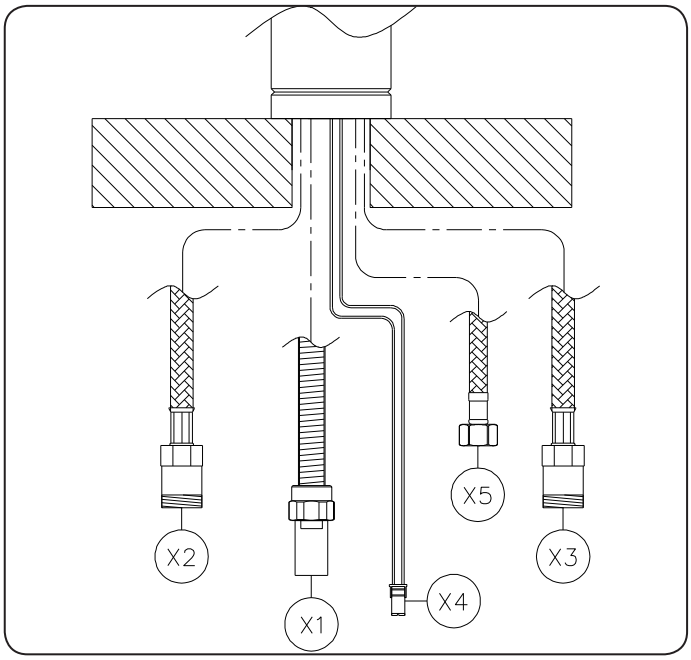
⚠ The 600mm vent hose (B9) supplied is designed to suit most installation configurations.

However if the supplied hose cannot be used, it can be substituted for 15mm metal pipe. Cut to the desired shape and lengths as required. You will also need to install a ½" BSPPF x 1.2" BSPPM (15mm) connection (not supplied) to attach 15mm pipe to vent ½" BSPPF output (A7).

Please note that in normal use the supplied vent hose is designed to be easily unscrewed by the customer to allow addition of descaling solutions. If you are not using the supplied hose (A9) and producing a customised vent pipe this provision must be retained.

⚠ The vent hose must not be twisted, stretched, kinked or looped, it must have a constant fall from the tundish to the boiler vent output. For further guidance refer to current Part G building regulations.

10. Tap installation



Key	Qty	Description
X1	1	Adaptor inlet nut
X2	1	Hot water flexible tail
X3	1	Cold water flexible tail
X4	1	Boiler data connection
X5	1	Boiler flexible pipe

1. Install the mixer tap, because the tap design will vary by model you should follow the instructions supplied with the mixer tap. Do not make any of the final water connections to the hot, cold, filtered or 98°C inlet pipes at this stage.

⚠ The spout exit of the tap should be no higher than 1 meter above the top of the boiler, additional head (height or distance) will add stress on the boiler pump and affect performance.

2. Screw the ¼ NPTF x ¼" pushfit connector (C12) into taps adaptor filtered water inlet nut (X1), we recommend PTFE tape on the ¼" NPTF thread to make a reliable seal without needing to overtighten the plastic pushfit connector.

3. Firmly connect the ¼" pipe (C11) from the ¼" tee (C9) into the ¼" pushfit connector (C12), adjust the final length of pipe (C11) as required.

4. Connect the hot water flexible (X2), to 15mm pipe (D1) using a compression nut and olive (D2 & D3).

5. Connect the cold water flexible (X3), to 15mm pipe (E7) using a compression nut and olive (E8 & E9).

6. Connect the boiler flexible pipe (X5), to the boilers 3/8" outlet (A8), ensure to include the 3/8" fibre seal between the hose (X5) and the outlet (A8).

⚠ You must avoid stretching, twisting or kinking flexible hose (X5), the hose must also have a continuous fall to the boiler outlet with no loops or dead legs.

7. Connect the taps data connection lead (X4) to the boiler data extension lead (A6).

8. Use the cable straps supplied or similar to loosely tether the data wire and extension (X4 & A6) to the flexible hose (X5), this will help keep the wires out of the way and prevent accidental disconnection or damage to the data wires.

11. After installation, commissioning & tests

⚠ If this product has been installed on an a entirely new plumbing system it may have been disinfected by chlorination, do not proceed to turn on any isolation valves to the filter, boiler or tap until you are sure any such solution has been thoroughly flushed.

1. Place the tap handles in the off position.

2. Turn on the following isolation valves: domestic hot water, cold water and filtered cold water (E4).

3. Turn on the mains power socket for the boiler, then press and hold the up arrow on the front control panel the boiler to increase the temperature to 98°C. This will take approximately 20 minutes to fill and heat for the first time. As the boiler heats, the display will indicate its various stages: heating, filling and ready.

4. Carefully check the complete installation and all joints relating to the tap, drain, boiler and filter system for leaks.

5. If desired, flush the filter by using the flush valve on the top of the filter head (C3) and the drain pipe attached to the filter head into a bucket, this will prevent any loose carbon fines from being deposited into the system. Once complete, remember to fully close the flush valve on the top of the filter head (C3).

6. Whilst the boiler is still heating up, check that function and flow of the domestic hot, domestic cold and filtered cold (in this order). It is expected that the filtered cold flow rate should be slower than the cold water.

7. (7b) Check the flow rate of the domestic hot water when the hot tap is fully open and record the result. If required reduce the cold only flow rate to balance the hot and cold pressures and achieve a good mixed temperature.

8. (7a) Turn on fully the cold filtered water tap handle, once any trapped air and loose carbon dust have cleared you must adjust the valve on the tee (E4) so the flow rate of filtered cold water is 2 litres per minute (a 1 litre jug or bottle will fill in 30 seconds). Once adjusted turn off the cold filtered tap handle to the off position.

⚠ Failure to adjust the incoming filtered water flow rate may reduce the filter life, affect performance and could lead to premature damage to other components in the system. If this is overlooked it will invalidate any warranty.

9. Check that all of the flexible hoses or pipes have a constant fall and are not stretched, kinked, twisted. It's also important that they are positioned so that they are not going to be disturbed by the normal operation of any drawers, doors, bins or similar obstructions.

10. After the boiler is completely full and the display shows a constant 'READY' message, place the 'Hotkey' key fob near the front of the tap (please keep the Hotkey key fob in its protective packet at this time). Continue to dispense the 98°C water until the boiler is full empty and stops automatically. During the dispense, check for any leaks from the connections to the 98°C flexible hose (X5) and the vent connection (A7).

11. Allow the boiler to completely refill and heat (constant 'READY' message). Once the 'READY' message appears, dispense another full continuous tank of water. This will ensure that the tank and filter system have been flushed fully.

ⓘ Flushing the new installation correctly will clean and sanitise the installation. It will also help to reduce any unwanted taste characteristics in the water because the system components are new and any existing pipework has been disturbed. Be assured that any remaining unwanted taste or odours will clear quickly with further use, if the client is present please explain you have performed this step to avoid them needing to repeat it.

12. Following the user guide interface instructions, set the system clock to the correct time.

13. Again, following the user interface instructions, we recommend as standard to set Eco Mode to 'ON' or 'TIMED according to the clients preference.

14. Double check all water connections for any slower leaks that may have not been visible during the earlier checks.

15. Return the installer checklist section of this booklet as requested and ensure all sections are clear and fully completed, return details can be found on the top of the installer checklist.

16. To ensure the correct reminder period for your client, the filter life counter must be reset. Press and hold both the up (▲) and down (▼) keys on the boiler control for a few seconds. The filter indicator bar will refresh once complete.

17. If the customer wishes to operate the product immediately after the installation, it can be left on.

18. If the product is not to be used for an extended period after installation, the boiler can be switched off by holding the 'STANDBY' button and then following the on screen prompts.

ⓘ For even longer periods of dormancy or in the case of further plumbing work being required, you may wish to close the hot and cold water supplies completely. In the event of this, your customer will need to follow some of the combining steps again to adjust the flow rates.

19. If the customer is present please hand over the instruction booklets and demonstrate the basic functions and features of the products. If the customer is absent during the installation, please leave the instructions in a clearly visible location with the boiler for their reference.

ⓘ To avoid the 'Hotkey' key fobs becoming lost, either hand them to the client (if present) or stick the Hotkeys (whilst still in its packet) to the top of the boiler.

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