Billi®

Commercial Installation Guide

Billi Eco (901000)

Dispenser options:

XL, XT, XR, MMT, XT Motion

CONTENTS

Warnings and Important Information

- For continued safety of this appliance, it must be installed, operated and maintained in accordance with the manufacturer's instructions. Your appliance should be installed by the manufacturer, a service agent, or any other suitably qualified tradesperson.
- For correct operation of this appliance, it is essential to observe the instructions as outlined in this booklet.
- Do not use this appliance with water that is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.
- Filter replacement must be performed at intervals of not more than 12 months.
- Use this appliance only as directed in these instructions and only for its designed purpose.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or persons with lack of experience and knowledge, unless they are supervised or have been given instruction concerning use by a person responsible for their safety.
- This appliance is not to be installed in an area where a water jet could be used. Children should be supervised to ensure that they do not play with the appliance.
- **DANGER:** The operation of the internal thermal cut-out indicates a possibly dangerous situation. Do not reset the thermal cut-out until the appliance has been serviced by a suitably qualified person.
- **WARNING:** Do not connect any restrictor, pressure relief device or non-return valve to the vent pipe of this appliance.
- **WARNING:** When positioning the appliance ensure the power supply cord is not trapped or damaged.
- **WARNING**: Do not install the appliance using a power board, double power adaptor or any other similar device. The appliance is to be plugged directly into a suitably protected and rated power point.
- **WARNING:** If the power supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons. The appliance is not to be used until the power supply cord is repaired.
- **WARNING:** Avoid spillages of any kind on all electrical connectors.
- **WARNING:** Potential injury can result from misuse.
- **WARNING:** Internal surfaces adjacent to and directly in contact with the heating element are subject to residual heat after use.
- **WARNING:** Only Billi hose and tube kits as supplied with the appliance are to be used. Old or other manufacturer's hose and tube kits should not be used.
- **WARNING**: This appliance may deliver water at high temperature. Refer to the plumbing code of Australia (PCA), local requirements and installation instructions to determine if additional temperature control is required.
- **WARNING:** Installation shall conform to the plumbing code of Australia (PCA) or relevant local requirements.
- If the appliance is installed in a location where the ambient air temperature could fall below 4°C, do not turn off power to the appliance to prevent malfunction. This safeguard does not offer protection to connecting pipework and fittings external to the appliance.
- The appliance is designed to operate in an ambient air temperature range of 5°C to 30°C.
- Turn off power to the appliance by unplugging the power cord from the connected power point. Only do so after the inlet water supply has been turned off.
- The appliance is intended to be used in household and similar applications such as:

  - Staff kitchen areas in shops, offices, and other working environments.
  - By clients in hotels, motels, and other residential type environments.
  - Bed and breakfast type environments.
  - Catering and similar non-retail applications.

- **Please note maximum inlet water pressure is 1000kPa.**

Unpacking your Billi Eco

Before commencing installation, carefully check for any damage to outer carton, inner liner, appliance metalwork, pipework fittings and electrical power cord. If damage is found, please photograph and record details for use if a claim is to be made.

Included Components

Before commencing installation, identify the following components:

1. Underbench module
2. Dispenser kit (depending on region)
3. 1 x Allen key (2.5mm)
4. Large washer
5. Tube spring clamps x 3
6. 600mm flexible braided hose
7. Filter Cartridge (installed)
8. User guide
9. Installation Guide
10. Warranty Registration Card
11. Warning label

Additional Components – XR

12. Remote panel kit

Installation Requirements

Determine Unit Location

Plan the installation carefully, taking into consideration dispenser tube lengths, position of power and water outlets, and access for servicing. The Billi Eco is to be installed indoors only and must be installed on a level surface with the display panel facing to the front of the cupboard. Refer to **Diagram 1** for a typical installation scenario.

Power Requirements

A 10 amp single 3 pin GPO is required within the cupboard. A dedicated circuit should be provided and must be fitted with an earth leakage protection device (RCD). An externally fitted RCD device is acceptable. All Billi Eco units are supplied with 1 metre flex cord and plug.

Water Supply

The Billi Eco must only be connected to a cold water supply. A 1/2" BSP stop tap (not supplied) is to be installed in an easily accessible location within 600mm of the Billi Eco water supply inlet. A certified pressure limiting valve with internal dual check valve for backflow prevention is incorporated in the appliance.

IMPORTANT: Do not fit an additional pressure limiting valve or dual check valve.

Inlet water supply requirements:

Dynamic pressure: Min. 250kPa – Max. 1000kPa Water temperature: Min. 5°C – Max. 30°C

IMPORTANT: Do not install with water that is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.

Ventilation

A minimum cupboard depth of 520mm is required for installation. Adequate cross-ventilation is required, minimum of 100mm on each side (left & right) is recommended. 150mm of clearance is recommended above the appliance for accessibility and to prevent hoses being kinked.

IMPORTANT: Insufficient ventilation will cause inefficient refrigeration system operation, increasing power usage and potential failure.

Installation Requirements cont.

Installation Footprint

The Billi Eco has the following minimum dimensions **(refer Diagram 3):**

Height	Width	Depth
355mm	180mm	500mm

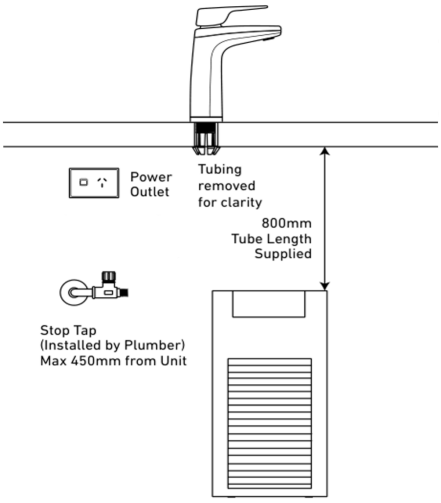

Diagram 1

XL Dispenser

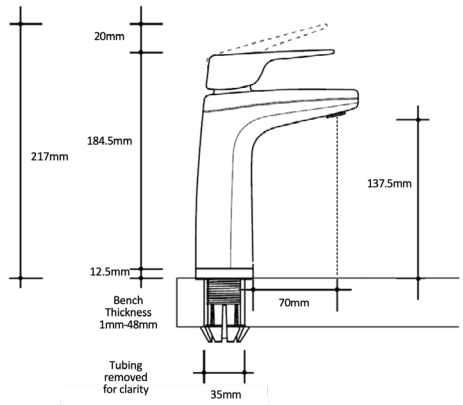

Diagram 2.1

XT Motion

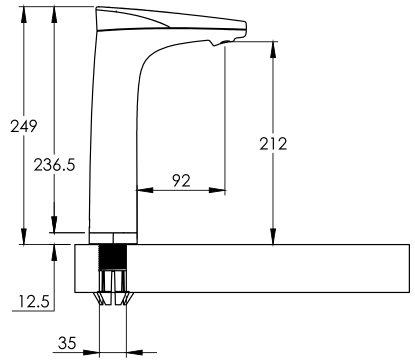

Diagram 2.2

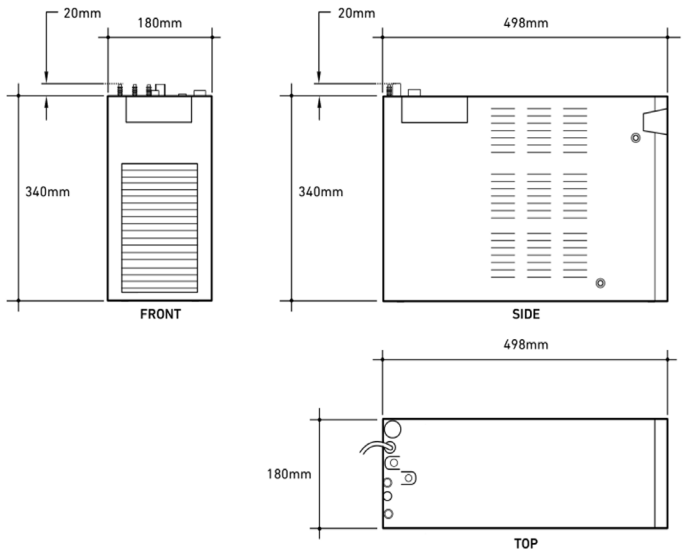

Diagram 3

Installing the dispenser XL, XT, XR, XT Motion

IMPORTANT: This Billi appliance is to be installed by a licensed tradesperson in accordance with AS/NZS 3500.1 and AS/NZ 3500.2 and in compliance with applicable state regulatory requirements. For correct operation of this appliance, it is essential to observe the manufacturer's instructions.

IMPORTANT: The Billi X Series dispenser range is supplied with base assembly preassembled into dispenser upper and this must be first removed prior to starting installation. Using Allen key supplied in installation kit, remove chrome plated M4 screw from rear of housing. Twist base casting around 60° and then slide assembly out of upper housing. Carefully pull tubing and electrical cable and plug through base assembly.

Components in Dispenser Kit

Before commencing installation, identify the following components:

1. Dispenser
2. Large D-Washer
3. *XR remote panel (if installing XR type dispenser)*

1. Determine Dispenser Location

The X-series dispensers can be installed on a surface 1mm –48mm thick and requires a hole size of ø35mm. All tube and signal cable lengths are 800mm and connect to top rear of underbench module.
Refer to **Diagram 4** for a base template that may be cut out to assist in positioning, and **Diagram 2** for dimensions of dispenser. Ensure to leave sufficient room for the safety lock button on rear of dispenser head. For XT Motion, ensure to leave sufficient room on both sides of the sensor lens.

2. Cut ø35mm Hole in Sinktop or Benchtop

a. Stainless Steel Sinktop
A suitable ø35mm hole punch (Part no: 857901) is available as an accessory from Billi. If possible, cut hole with die mounted below the sinktop surface so burrs are pulled downwards. Alternatively, remove burrs and radius edge of hole with a fine file.

b. Timber/Laminate Benchtop
Take care to avoid chipping of surface as the drill breaks through underside of the benchtop. We recommend drilling a small pilot hole through the benchtop, partially drilling ø35mm hole from underneath, and then completing drilling hole from above.

c. Stone bench top
For all stone benchtops we recommend you use a certified stone mason to pre-drill the hole before arriving at site to mitigate the risk of silicosis or airborne particulate matter. Billi is unable to provide on-site drilling services and will always prioritise the safety of our staff & customers.

3. Prepare Dispenser Base Assembly for Installation

a) Remove retaining screw on rear back of dispenser using supplied hex key.
b) Turn dispenser base 30° then pull down to separate completely from main body, sliding over tubes and power cord. Refer to **Diagram 4 and 5.**
c) Place main body aside.
d) Activate dispenser swivel feature if desired by pushing out locking piece as shown in **Diagram 5 (Not applicable for XT Motion).**
e) Remove base casting from barbed mounting shaft by unscrewing locking nut.
f) Position critical locking sleeve at base of barbed mounting shaft, ensuring it contacts the moulded stop. Refer to **Diagram 7.**
g) Push barbed mounting shaft through underside of mount hole with barb facing down. Large D-washer is recommended to be used if there is room.
  i. Insert D-washer over barbed mounting shaft prior to insertion through bench if it is used. Refer to **Diagram 6.**
h) Re-assemble base casting and locking nut with barbed mounting shaft. Take care to align flat face on barbed mounting shaft with flat face in hole of base casting.
i) Finger tighten locking nut.
j) CHECK CRITICAL LOCKING SLEEVE IS STILL POSITIONED AT BASE OF BARBED MOUNTING SHAFT.
k) Ensure barb is centred in mount hole and alignment of base is correct. Moderately tighten locking nut using multigrips or spanner. Avoid overtightening the locking nut to avoid damaging the barbed mounting shaft. Refer to **Diagram 7.**

Installing the dispenser. contd.

4. Install Dispenser Main Body

a) Feed all tubing and power cord through hole in dispenser base. Feed power cord first followed by tubes. Refer to **Diagram 8.**
b) Gently pull all tubes and power cords, ensuring tubes aren't kinked or twisted. Do not attempt to force tubing or power cord through with a pointed object as this may cause damage.
c) Re-assemble dispenser base and main body by turning main body 30° in relation to dispenser base and pushing down. Gently pull tubing and power cord downwards at the same time from underneath to prevent kinking and bunching.
d) Turn dispenser main body straight once fully inserted and re-install retaining screw on rear back of dispenser.
e) If swivel feature has been activated check dispenser now smoothly swivels 45° in each direction.

Dispenser base XL

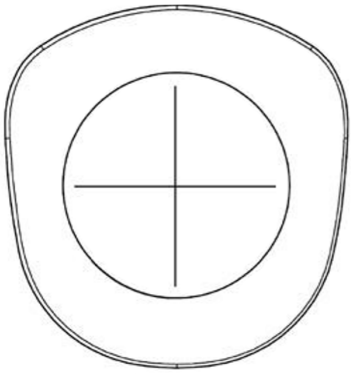

Diagram 4.1

Dispenser base XT Motion

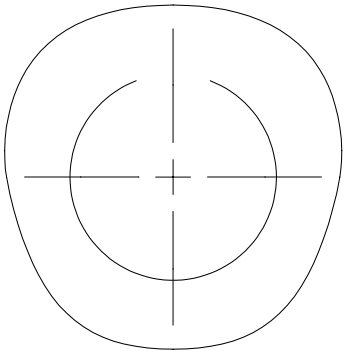

Diagram 4.2

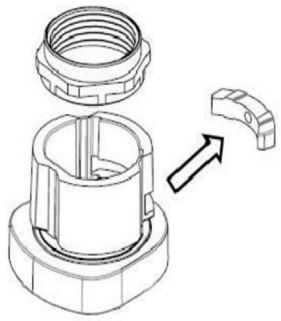

Diagram 5

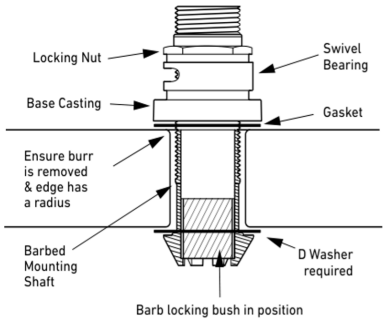

Diagram 6

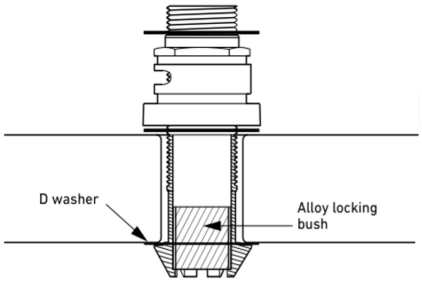

Diagram 7

Dispenser XL

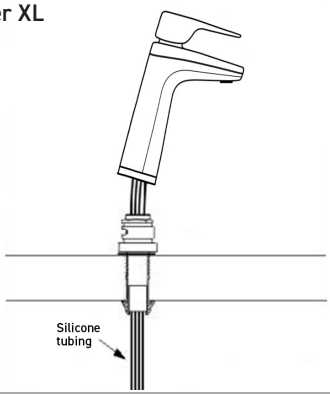

Diagram 8.1

Dispenser XT Motion

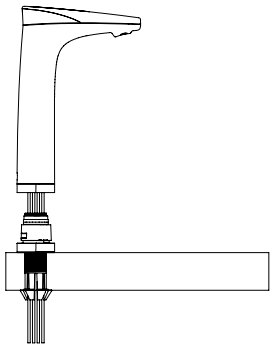

Diagram 8.2

Additional installation – XR. Proud mount remote panel.

1. **Determine Remote Panel Location**
   Cut out cable access hole in the desired location. Hole size must be Width 25mm x Height 45mm – see diagram 13.
   Drill a pilot hole using bracket as a template. The template could also be used as a guide to cut into the plaster.

2. **Install Mount Bracket**
   Fasten the mount bracket on to the wall using phillips head screwdriver (ensure the spring clips are facing up) – see diagram 14.

3. **Install Cabling**
   Feed the cable through pre cut hole. Screw and fasten the cable strain bracket to the back of remote tap module. Secure the tap module by sliding it onto the previously installed bracket – see diagram 15.

4. **Completing Installation**
   Ensure panel is secured. Clean up any excess plaster. Installation is finished – see diagram 16

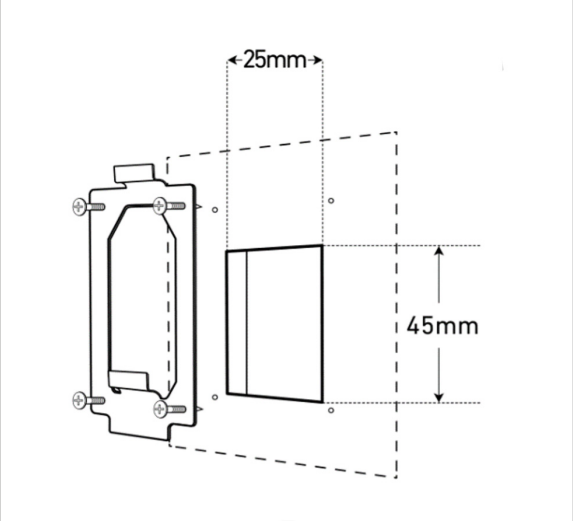

Diagram 15

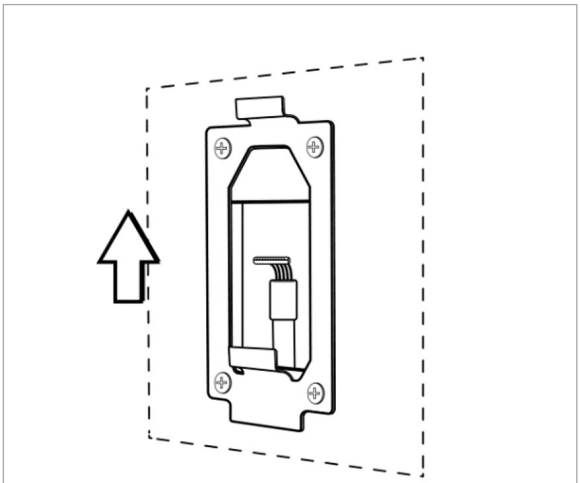

Diagram 14

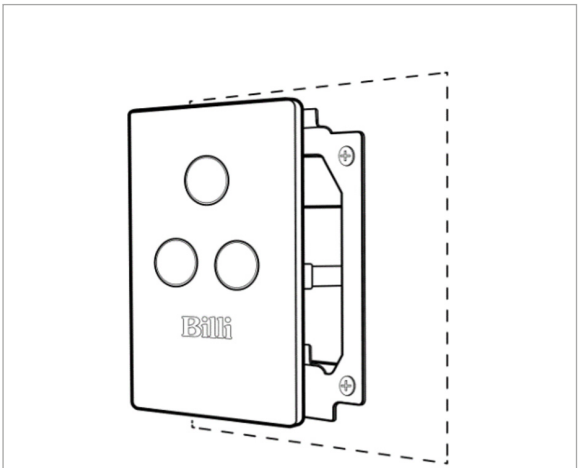

Diagram 15

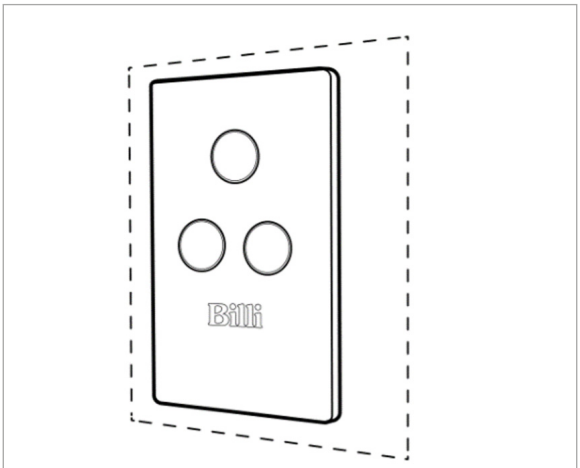

Diagram 16

Installing Multifunction Mixer Tapware

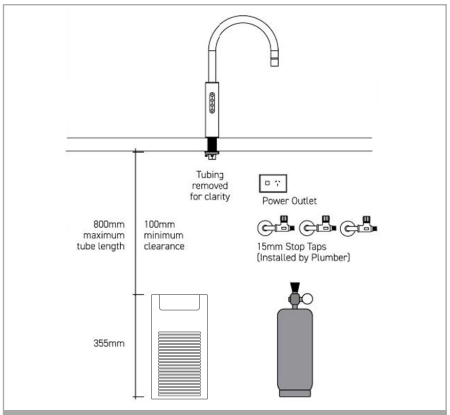

Diagram 10

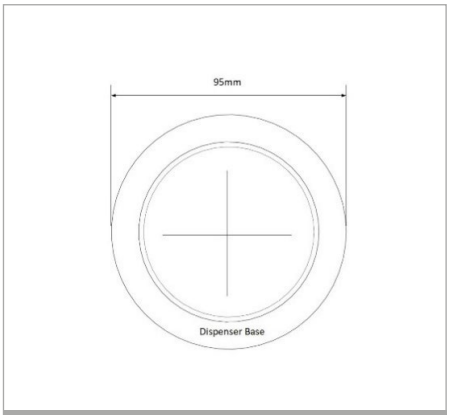

Diagram 11

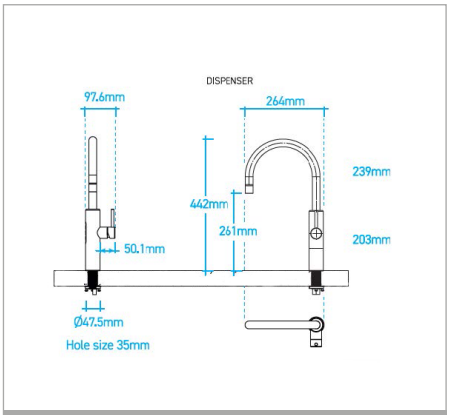

Diagram 12

1. Determine Dispenser Location

The MMT dispenser can be installed on a surface 1mm –48mm thick and requires a hole size of ø35mm. All tube and signal cable lengths are 800mm and connect to the top rear of underbench module.

Refer to Diagram 11 for a base template that may be cut out to assist in positioning, and Diagram 12 for dimensions of dispenser. Ensure to leave sufficient room for the safety lock button on rear of dispenser head.

2. Cut ø35mm Hole in Sink top or Benchtop

a. Stainless Steel Sink top
A suitable ø35mm hole punch (Part no: 857901) is available as an accessory from Billi Australia Pty Ltd. If possible, cut the hole with the die mounted below the sink top surface so burrs are pulled downwards. Alternatively, remove burrs and radius edge of hole with a fine file.

b. Timber/Laminate Benchtop
Take care to avoid a large chip breaking as the drill breaks through the underside surface. We recommend drilling a small pilot hole through the benchtop, partially drilling ø35mm hole from underneath, and then completing the drilling hole from above.

*For all stone benchtops we recommend you use a certified stone mason to pre-drill the hole.

3. Prepare MMT Mixer Tap Base for Installation

a) Remove the ring bracket located underneath the MMT tap assembly by turning it counterclockwise. Refer to Diagram 13.
b) Set the ring bracket aside in a safe location.
c) Ensure the tubing is straightened and free from kinks before proceeding.

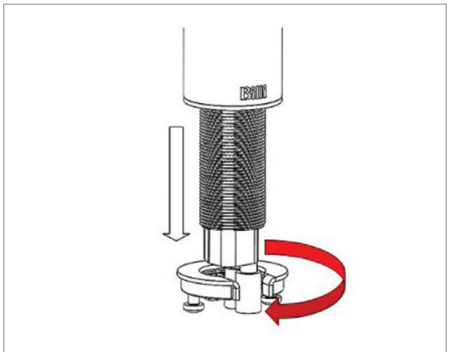

Diagram 13

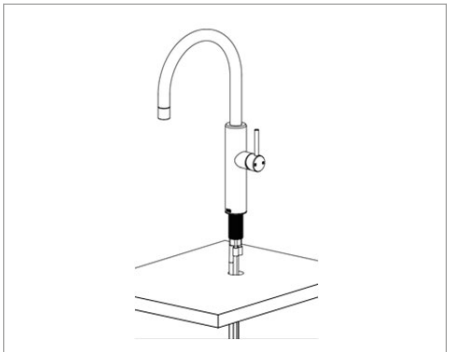

Diagram 14

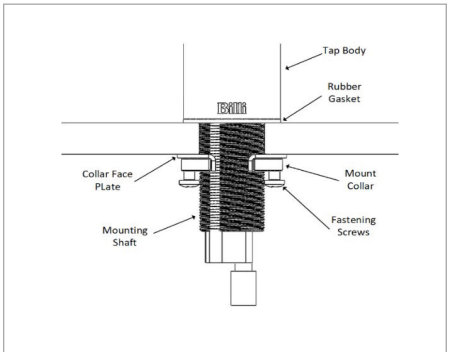

Diagram 15

Installing Underbench Module

1. **Flush Water Supply**
   Flush water supply before installation by connecting supplied 600mm flexible braided hose to the supply tap and running water into a bucket.
   Blockages/unit malfunctions caused by debris are **not** covered by warranty.

2. **Install Underbench Module**
   Position both underbench modules in intended location, taking care to maintain clearance and ventilation requirements. Refer to Diagram 1 and Diagram 4. Ensure there is adequate clearance for ventilation and service access to the units, considering the tube lengths and space available.

3. **Connect Dispenser Tubing and Electrical Plug**

   IMPORTANT: Boiling outlet (red), vent tube (grey) must not be kinked and must be installed with a continual fall and no sag Connect all tubing and electrical plug as shown.

   INSTALLERS TIP: It is easiest to fit these tubes to chiller before unit is installed. Before inserting tubing into push-fit connectors, ensure that tube ends are cleanly cut and not flattened or kinked. Tube is pushed firmly into connector until properly seated. (To release, press the retaining collet ring inwards while pulling gently on the tube).

   Connect all tubing and electrical plug as shown in Diagrams 10 and 11.

   a. Trim silicon tubes to correct lengths using a sharp knife or plastic tube cutter. Avoid leaving excess tubing which will sag and trap water. Fit spring clamps to tubing prior to connecting.
   b. Red silicone tube pushes on to boiling module fitting labelled BOILING (RED). Secure with spring clamp supplied.
   c. Grey silicone tube pushes on to boiling module fitting labelled VENT (GREY) Secure with spring clamp supplied.
   d. Dispenser electrical cable Mini-Din connector plugs into boiling unit socket.
   e. 6mm PE tube connections are made using push-fit connectors. There are 3 x Ø6mm tubes supplied loose in your installation kit; 2 x black, and 1 x natural (clear). Each tube has an elbow fitting attached to one end. An additional 6mm elbow is supplied which is to be fitted to the blue dispenser tube once tube has been trimmed to correct length.
   f. Tube elbows are inserted into fittings at rear of chiller. Refer to diagram 10 and 11 for correct tube orientation and colour coding.
   g. Connect power lead with 6-way mini din plug from boiling module to socket located at rear RHS of the sparkling water module -refer to diagram Rear mounted plug guide bracket helps to locate socket position and orientate plug correctly.

      IMPORTANT: At this stage, **do not** connect CLEAR feed tube between boiling and chilled water modules. This will be connected once ice bank had been filled. Instead, connect the BLACK tube to the ambient water fitting on the boiling module. Refer to diagram 10.

4. **Sparkling Flow Controller:**

   a. Position adjustable flow controller as high in the cupboard and as close to the dispenser as practical while still ensuring it is accessible for adjusting later. Please refer to diagram 10.
   b. Cut tube at required location, and insert flow controller in line as per diagram 10. Ensure direction matches the diagram.

5. **Connect CO_2 bottle and pressure regulator**

   a. Remove CO_2 bottle from packaging box. Remove plastic cap from threaded outlet of bottle.
   b. Remove CO_2 pressure regulator from packaging and check pressure control knob is turned fully anticlockwise.
   c. Holding the CO_2 bottle upright, screw the pressure regulator onto outlet. A small amount of CO_2 gas will escape until regulator has been tightened.
   d. Decide location of CO_2 bottle in cupboard space.
   e. Black Ø6 mm tube from chiller module connects to outlet of gas regulator. Trim tube to correct length, push into fitting and tighten retaining nut. Refer to diagram 10 & 13.

Installing Underbench Module

1. **Flush Water Supply**
   Flush water supply before installation by connecting supplied 600mm flexible braided hose to the supply tap and running water into a bucket.
   Blockages/unit malfunctions caused by debris are not covered by warranty.
2. **Install Underbench Module**
   Position your Billi Eco in intended install location. Remove all protective films and packaging materials once installed, including filter support block.
3. **Connect Water Supply**
   Connect directly to cold water supply tap using the supplied 600mm flexible braided hose. Ensure there are no kinks or twists in the hose.
   DO NOT TURN ON WATER SUPPLY.
4. **Connect Dispenser Tubing and Power Cord**
   Connect dispenser power cord and tubing as shown in Diagram 10 and 11.
   Trim back dispenser tubes to avoid kinking and sagging from excessive length.
   i. It is advised to leave 100mm of tubing in addition to minimum required length.
   ii. Ensure all tubes are cut square and straight.
   Ensure all tubes are fully inserted and silicone tubes are secured with supplied spring clamps in drain connection kit.
   Ensure flat face of dispenser power cord is facing forwards when inserted.

   IMPORTANT: Silicone boiling outlet tube (red) and silicone vent tube (grey) MUST NOT be kinked and must be installed with a continual fall and no sag.

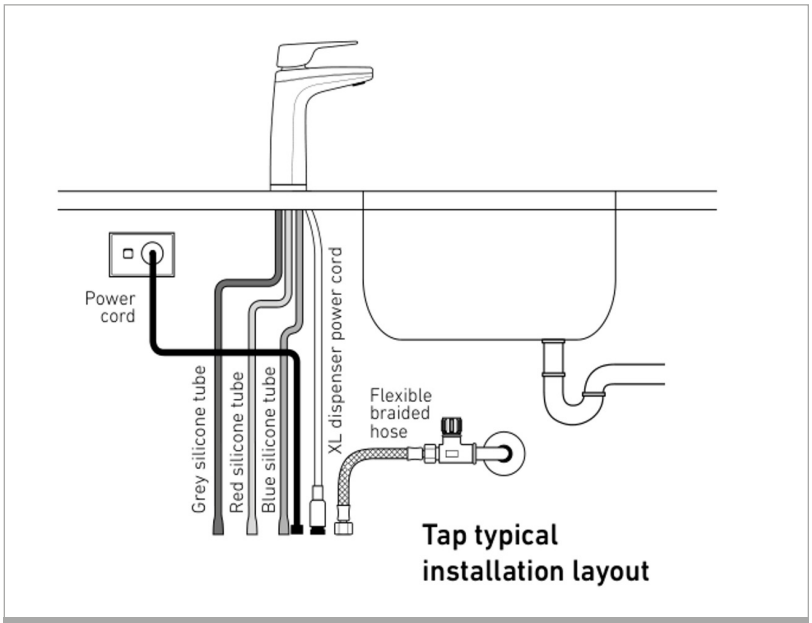

Diagram 17

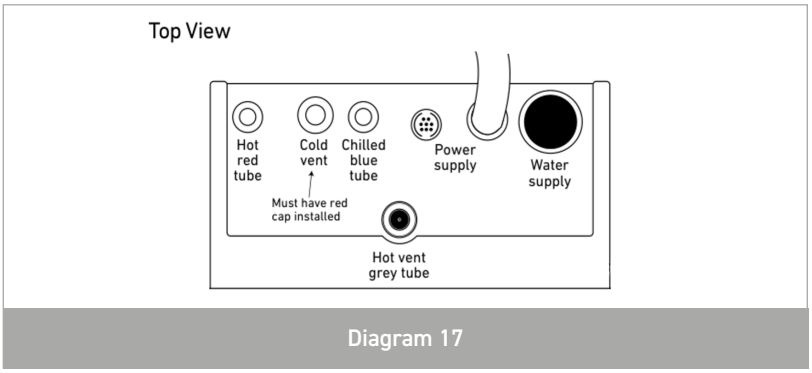

Diagram 17

Commissioning

1. **Check Filter Cartridge**
   Open front filter door by pulling in the indicated area and remove foam packing from under pre-installed filter cartridge. Ensure filter cartridge is fully pushed in and securely locked in place. Close front filter door.
2. **Turn on Water Supply**
   Turn on water supply tap and check there are no leaks.
3. **Turn on Mains Power**
   Ensure lights turn on. When power is applied the system checks the water level in the hot tank and if empty (below the low level sensor) then the unit will enter the boiling point calibration mode. This will normally only occur the first time a new system is turned on. On power ON, if the hot tank level sensor is above the low level sensor, the unit will enter its normal operating mode at full power. This will happen when the system has been installed and used at least once.

IMPORTANT: On initial power up, leave the unit for 10 minutes before attempting user setup.

XL Commissioning:

If plugged into an XL Tap, commissioning will begin automatically (Skip to initial fill section).

If plugged into an XT Motion Dispenser, skip to Step 2 below.

MMT/XT Motion Commissioning

When plugged into an MMT Tap, following additional steps need to be taken:

1. Temporarily swap the red and black tap tubes so that the red boiling tube is connected to the vent outlet of the unit and the black vent tube is connected to the boiling outlet of the unit. This allows for increased venting during calibration.
2. Switch power point on and wait for at least 3 seconds.
3. Press and hold the PRESSURE RELIEF SWITCH for 10 seconds (the FILTER CHANGE LED will be illuminated).
4. Release the PRESSURE RELIEF SWITCH, the FILTER CHANGE LED will flash in a sequence indicating current tap setting:
   i. 1 flash = QL Tap
   ii. 2 flashes = XL Tap
   iii. 3 flashes = XT/XR Tap
   iv. 4 flashes = AL (Multifunction Mixer Tap and XT Motion)

5. To change the tap type to MMT or XT Motion, press the PRESSURE RELIEF SWITCH once and it will cycle to the next option.
6. When AL is selected (Four flashes), push and hold the PRESSURE RELIEF SWITCH until the POWER LED blinks.

Initial Fill:

During the initial boiling filling, red dispenser LED flashes rapidly. Water level in the hot tank rises until it reaches the lower-level sensor.

XT/XR Commissioning

When plugged into an XT/XR Tap, following additional steps need to be taken:

2. Switch power point on and wait for at least 3 seconds.

3. Press and hold the PRESSURE RELIEF SWITCH for 10 seconds (the FILTER CHANGE LED will be illuminated).

4. Release the PRESSURE RELIEF SWITCH, the FILTER CHANGE LED will flash in a sequence indicating current tap setting:

   i. 1 flash = QL Tap

   ii. 2 flashes = XL Tap

   iii. 3 flashes = XT/XR Tap

   iv. 4 flashes = AL (Multifunction Mixer Tap/XT Motion)

5. To change the tap type, press the PRESSURE RELIEF SWITCH once and it will cycle to the next option.

6. When XT/XR is selected (Three flashes), push and hold the PRESSURE RELIEF SWITCH until the POWER LED blinks.

Initial Fill:

During the initial boiling filling, red dispenser LED flashes rapidly. Water level in the hot tank rises until it reaches the lower-level sensor.

Boiling water temperature calibration

IMPORTANT: During hot water calibration mode, cold water delivery is disabled, and chiller module cannot be commissioned until calibration cycle is complete. Hot water calibration cycle can be aborted by turning the power off and back on again.

The hot tank will first fill to the height of the low level sensor. The water is then heated until it reaches boiling point. The unit will continue to boil for up to 30 seconds while the temperature sensor calibrates.

WARNING: Steam and small amounts of hot water may be discharged from the taps and vent during this period.

While calibration is underway the hot water indicator (red) will double blink rapidly. The hot water set point is calibrated 0.5°C below the boiling point. Once calibrated the unit will resume normal operations and the calibration data is saved. The unit will not recalibrate under normal circumstances.

If further boiling water calibration is required in the future, the following procedure should be followed:

– Turn the water supply off

– Run the hot water until the hot tank is empty

– Turn the power off for 5 seconds, then on again

– Turn water supply on

– The unit will then re-calibrate its boiling point.

6A. For Multifunction Mixer Tap swap the red and grey silicon tap tubes back so that the red boiling tube is connected to the boiling outlet of the unit and the grey vent tube is connected to the vent outlet of the unit. This is a critical step.

Re-check Connections for Leaks
Explain Operation to User

Installation and Commission Checklist

- ☐ Unit is set to reflect correct tap style.
- ☐ Filter packing foam removed from under filter canister.
- ☐ Dispenser mounted securely.
- ☐ Dispenser swivels 45° in each direction – M4 chrome retaining screw fitted (XL/XR/XT only).
- ☐ Tubing is cut to correct lengths and not kinked or sagging. Red, grey and 10mm black tubes have a continual fall.
- ☐ Tubing not twisted or kinked.
- ☐ Tubing secured correctly – nuts and spring clips.
- ☐ Water main flushed before connection to unit.
- ☐ Unit connected to COLD water supply.
- ☐ Correct air clearances around unit.
- ☐ Power circuit fitted with an RCD – earth leakage protection device.
- ☐ Sawdust cleaned out of cupboard area.
- ☐ Initial program settings correctly set for dispenser tube length.
- ☐ Time (check if daylight savings), day and date set correctly. – Refer to Eco User Guide.
- ☐ Unit heating (after initial fill). Red dispenser icon flashing (or on continually when reached temperature).
- ☐ Boiling and chilled water flows correctly.
- ☐ Cold vent outlet has red cap installed (Diagram 18).