# Billi™

# Installation guide
# Sahara & Sahara Plus
# Tap options XL, XT, XR
(943010, 943020, 943025, 943060,
943065, 943120, 943125)

REV04

# Installation requirements.
## XL, XT, XR.

### Components for Billi Sahara
#### 310, 320, 360 & 3120 Models – XL, XT, XR

Before commencing installation,
ensure you have identified the following.

1. Underbench module
2. Dispenser upper with tubing
3. Dispenser base & mount
4. Barb locking bush
5. 4mm chrome screw & Allen key
6. Large washer
7. Tube spring clamps x 3
8. 600mm flexible braided hose
9. Filter Cartridge (installed)
10. User Guide
11. Warranty registration card
12. Warning label
    #### Additional Components - XR dispenser
13. Remote Panel kit

### Determine Unit Location

Plan the installation. Dispenser tube lengths,
position of power and water outlets, required
air space around the underbench module and
access for service must be considered before
cutting tube lengths. Refer to Diagrams 1 and 2.
Unit must be installed horizontally with display
panel facing to front of cupboard. The Sahara is
designed for internal installation only.

| Model | Height | Width | Depth | Min side clearance |
|---|---|---|---|---|
| Sahara 310 | 340mm | 180mm | 365mm | 10mm |
| Sahara / Sahara Plus 320, 360, 3120 | 340mm | 180mm | 460mm | 10mm |

### Water Supply

The Sahara must only be connected to a cold
water supply. A ½" BSP stop tap (not supplied)
is to be installed in an easily accessible position
within 600mm from the Sahara water
supply inlet.

### Pressure Limiting Valve

This appliance incorporates a certified
pressure limiting valve with internal dual check
valve for back flow prevention. Do not fit
additional pressure limiting valve.

Dynamic water supply pressure:
Min. 250 kPa, max. 1000 kPa.
Minimum water supply: 6 l/m at 250 kPa
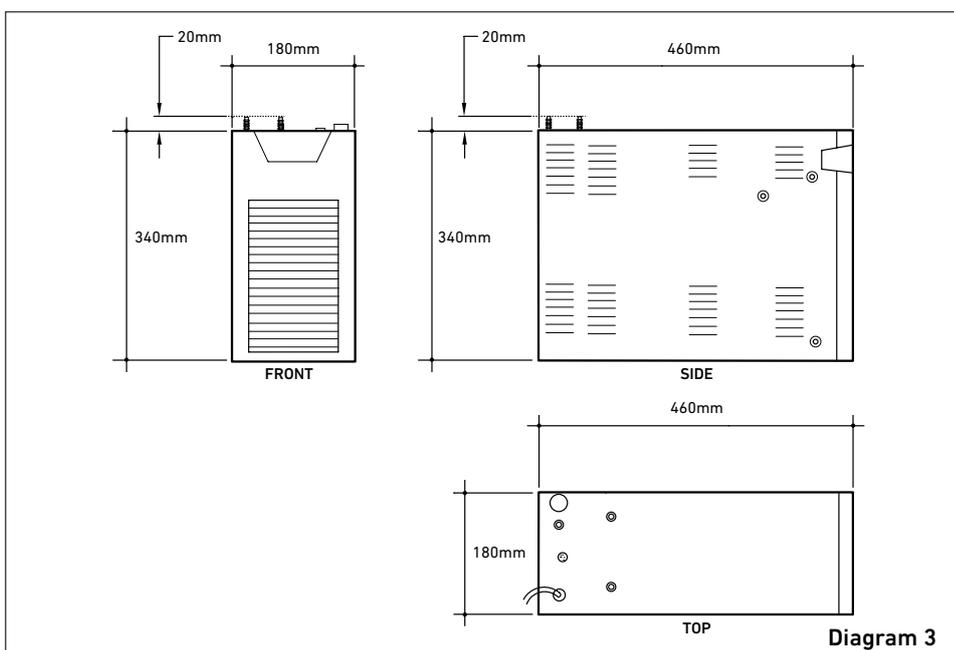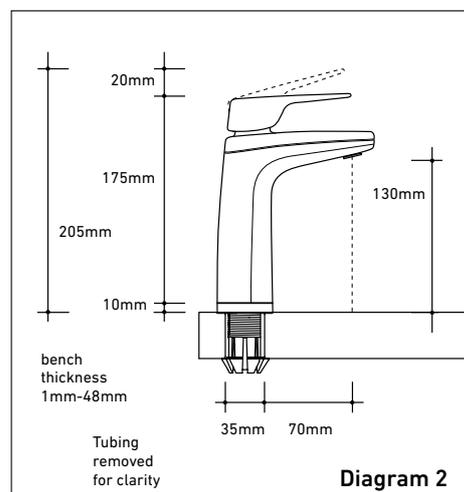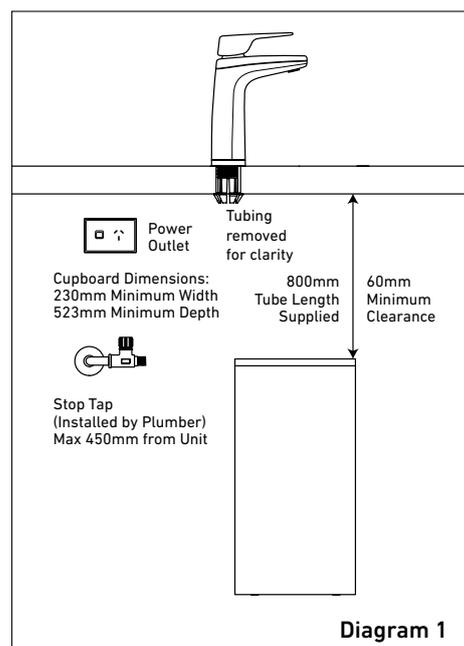Supply temp: min. 5°C, max. 30°C.

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.

### Power Requirements

A single 3 pin GPO is required. A dedicated
circuit should be provided and must be fitted
with an earth leakage protection device (RCD).
An externally fitted RCD device is acceptable
Sahara 310, 320, 320 Plus, 360 and 360 Plus
require a 10 amp rating.
Sahara 3120 and 3120 Plus require a 15 amp
rating.
All Sahara models are supplied with a 1 metre
flex cord and plug.



Power Outlet

Tubing removed for clarity

Cupboard Dimensions:
230mm Minimum Width
523mm Minimum Depth

800mm Tube Length Supplied

60mm Minimum Clearance

Stop Tap
(Installed by Plumber)
Max 450mm from Unit

**Diagram 1**



20mm

175mm

205mm

10mm

130mm

bench thickness
1mm-48mm

35mm    70mm

Tubing removed for clarity

**Diagram 2**



20mm    180mm

340mm

**FRONT**

20mm    460mm

340mm

**SIDE**

460mm

180mm

**TOP**

**Diagram 3**

# Installing the dispenser.
## XL, XT, XR.

IMPORTANT: This Billi appliance is to be installed by a licensed trades person 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.

### 1. Install Dispenser Assembly

Determine position of dispenser mounting hole in sinktop or benchtop. Dispenser base template (Diagram 4) may be cut out and used to assist in correct positioning. Refer to Diagram 2 for clearances allowed. Hole size required is ø32mm.

**—Stainless Steel Sinktop**

A suitable 32mm hole punch (Part no: 857901) is available as an accessory from Billi Australia Pty Ltd. If possible, cut hole with die mounted below the sinktop surface so that burr is pulled downwards. Alternatively, remove burr and radius edge of hole with fine file. This allows barbed dispenser mount to slide smoothly into mounting hole.

**—Timber/Laminate Benchtop**

Maximum benchtop thickness is 50mm Cut 35mm hole in appropriate position*. When drilling through a particle board bench top, take care to avoid a large chip breaking away as drill breaks through underside surface. We recommend drilling a small pilot hole through benchtop, partially drilling the 35mm hole from underneath and then completing drilling the hole from above. The large 30mm washer supplied may be used to secure barb where underside particle board bench top has chipped away.

\* For granite or marble benchtops we recommend you use a certified stone mason to pre-drill the hole.

### 2. Activate Dispenser Swivel Feature

To activate the swivel feature of your dispenser, you will need to remove the locking piece from the dispenser base. Simply push out the piece as show in Diagram 5. This will allow the tap to move 45 degrees to the left and right.

### 3. Fit Dispenser Base

a. Cut a 32mm hole in sinktop or benchtop. Remove burr if protruding upwards.
b. Push barbed mounting shaft through mount hole.
c. Insert barb locking bush as shown in Diagram 6. Finger tighten nut.
d. Ensure barb is centred in mount hole before tightening. Check position of base ring and gasket.
e. Moderately tighten locking nut using multigrips or spanner. Take care to avoid overtightening nut which may break the plastic threaded shaft.
f. Place large D washer over thread as shown in Diagram 7.

### 4. Fit Dispenser Head Assembly

a. Feed dispenser tubing and loom through centre hole in the following order:
   i. Dispenser power cord.
   ii. Silicone tubes
b. Gently pull hoses from under the bench top, do not attempt to force tubing through with a pointed object as silicone tube is easily punctured. Check tubing is not kinked or twisted.
c. Turn dispenser head assembly to approximately 60° from the straight ahead position of dispenser base. Slide head assembly onto base assembly whilst gently pulling tubing downwards from underneath to prevent tubing bunching and kinking. Mounting lugs will pass nut and slide down the 3 grooves on the swivel bearing.
d. Once fully down, turn dispenser to straight ahead position. Fit chrome plated M4 retaining screw to lower rear threaded hole and tighten using the allen key supplied. If swivel feature is activated, check dispenser now swivels smoothly 45° in each direction.
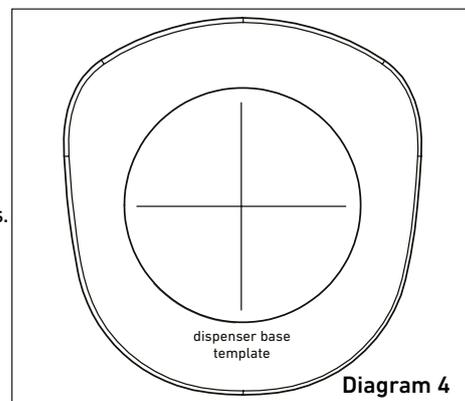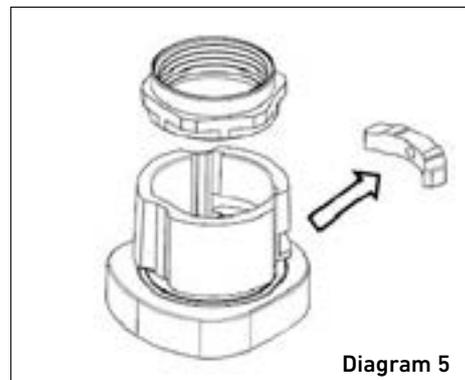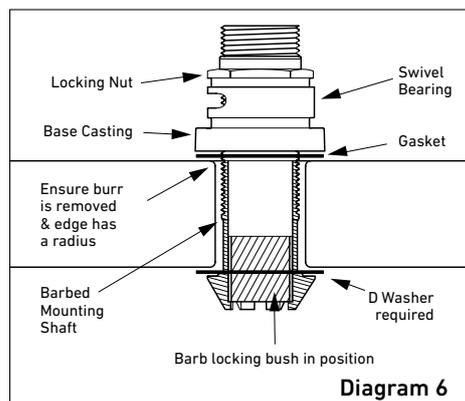


dispenser base template

**Diagram 4**



**Diagram 5**



Locking Nut

Base Casting

Ensure burr is removed & edge has a radius

Barbed Mounting Shaft

Swivel Bearing

Gasket

D Washer required

Barb locking bush in position

**Diagram 6**



D washer

Alloy locking bush
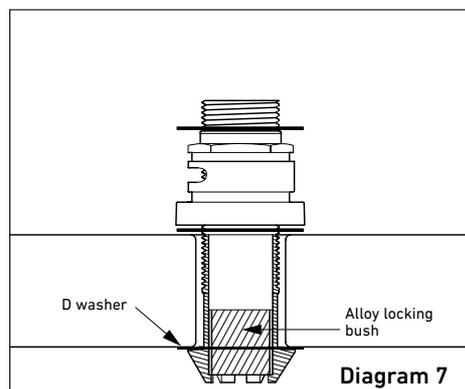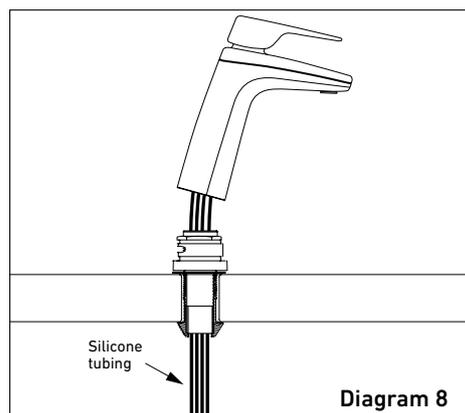
**Diagram 7**



Silicone tubing

**Diagram 8**

# Additional installation – XR.
## Flush mount remote panel.

### Determine Remote Panel Location

Dimensions and layout are shown in diagram 9. Panel can be installed on a wall, benchtop or even inside a cupboard

Minimum cut out dimensions are 121mm height x 70mm width. Minimum depth must be 20mm.

Cut out cavity into the plaster wall.

**Ensure the cable is pre-installed into the flush mount bracket before plastering.**

Place the flush bracket into the plaster wall with the cable gap facing towards the ground.

### Installing the Remote Panel

Cable must be protruding out of the bottom of bracket – **see diagram 9.**

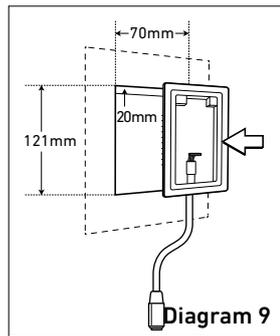Tape up the cable terminals before plastering process – **see diagram 10.**
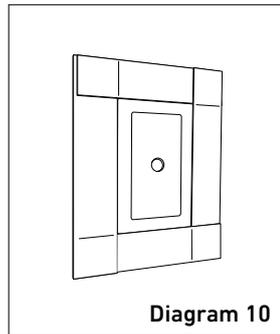


**Diagram 9**



**Diagram 10**

### Plaster and Paint

Start plastering as required.

Wait for the plaster to dry before cleaning the bracket.

Use a light sandpaper to give smooth finish on the drywall.

Then paint as required.

### Completing Installation

Take the tape off the cable connector and plug it into the panel – **see diagram 11**

The panel and bracket are magnetic. Upon install, the magnets will pull together and secure the module into place in place – **see diagram 11.**

Installation is finished – **see diagram 12.**

**Magnetic remover tool may be required again. Do not throw away.**
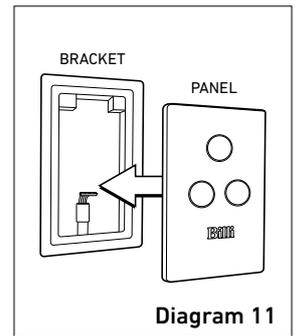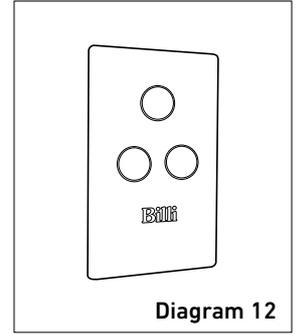


**Diagram 11**



**Diagram 12**

# Additional installation – XR.
## Proud mount remote panel.

### 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.

### 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.**
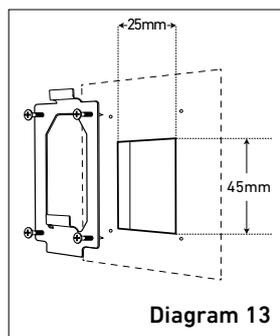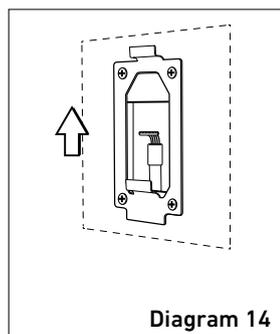


**Diagram 13**



**Diagram 14**

### 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.**

### Completing Installation

Ensure panel is secured.

Clean up any excess plaster.

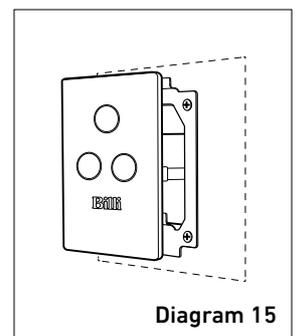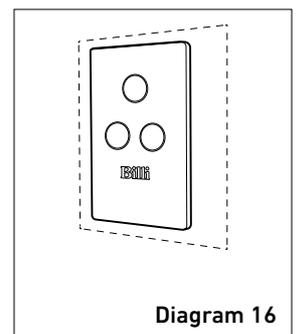Installation is finished – **see diagram 16.**



**Diagram 15**



**Diagram 16**

# Installing underbench module.

### 1. Flush Water Supply

Flush water supply pipework before installing the underbench unit by connecting 600mm flexible braided hose to the supply tap and running water into a bucket. Blockages/unit malfunction caused by debris are not covered under warranty.

### 2. Install Underbench Unit

Take care to observe minimum clearances. Ensure there is adequate access to service the unit, taking into account the tube lengths and space available Refer Diagram 1, page 2.

### 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 in diagram 17a & 18a for the Sahara 310 and Diagram 17b & 18b for the Sahara & Sahara Plus 320, 360, 3120 models.

Ensure correct orientation of dispenser power plug before insertion. Trim tubes to correct lengths using a sharp knife or plastic tube cutter. Avoid leaving excess tubing which will sag, trapping water. Fit spring clamps supplied to retain silicone rubber tubing to barbed fittings.
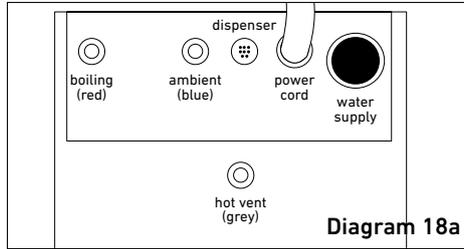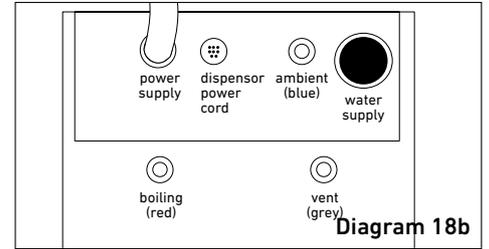
Sahara 310



**Diagram 17a**
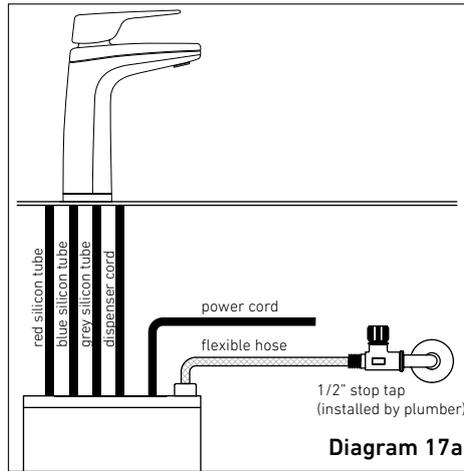
Sahara 320, 360, 3120 & Sahara Plus Models



**Diagram 17b**

Top View



**Diagram 18a**

Top View



**Diagram 18b**
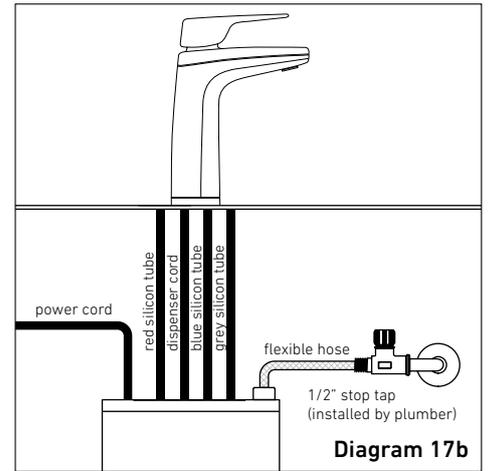
# Installing Sahara Plus mixer tap.

## Additional Components for Billi Sahara Plus 320, Plus 360 and Plus 3120 Models

Before commencing installation, identify the following components:

1.  O-ring (large)
2.  Tap base ring
3.  Mount clamp (brass)
4.  Mount clamp plate gasket
5.  Mount thread
6.  Extended fixing nut
7.  Barb adaptor fitting (short)
8.  Barb adaptor fitting (extended) marked 'TAP-H'
9.  Spring hose clamps x 2
10. ½" joining nipple
11. 1 metre PVC tubing
12. Braided flexible hoses x 3
    i.   Marked 'UNIT HOT-IN'
    ii.  Marked 'TAP-IN'
    iii. Marked 'TAP-OUT'
13. Mixer Tap

## Mixer Tap Mounting Procedure

1.  Drill or punch mount hole and deburr.
    – Hole size: 35mm.
    – Sink or Benchtop thickness: 1 – 45mm.
2.  Screw in 35mm brass mounting thread into the bottom of the mixer.
3.  Insert tap base ring over mounting thread. Ensure it is flush against the tap body with inset O-ring facing down.
4.  Screw barb adaptor fitting (extended) marked 'TAP-H' into marked 'H' threaded hole in base of mixer tap.
5.  Insert mixer tap through the mount hole and place tap in correct position with Billi logo facing front.
6.  Insert the large O-ring, followed by mount clamp plate gasket. Finally insert the brass mount clamp with 2 locking screws. See Diagram 19.
    NOTE: Ensure that the grooves from the mount clamp plate gasket are inserted into the channel of the brass mount clamp.
7.  Hand tighten the fastening assembly until it is quite firm. Using a philips head screw driver tighten both locking screws until the dispenser is firmly secured. See Diagram 19.
8.  Insert braided flexible hose marked 'TAP-OUT' into marked 'OUT' threaded hole into base of mixer tap. Screw in clockwise until tight.
9.  Insert braided flexible hose marked 'TAP-IN' into marked 'IN' threaded hole into base of mixer tap. Screw in clockwise until tight.
10. Push PVC tubing onto barb and fit spring hose clamp. Position hose clamp lugs as shown in Diagram 20.
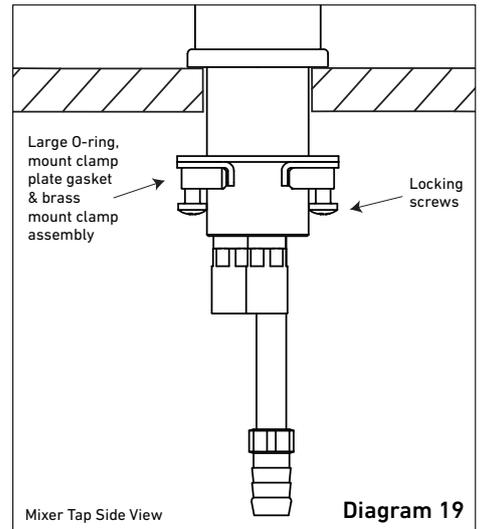
## Connecting Mixer Tap to Sahara Plus

Fit tubing connections as shown in Diagram 21a & 21b.
1.  Water supply inlet tube marked 'TAP-IN' incorporates an inline strainer. Connect to ½" BSP stop tap.
2.  Fit short barb adaptor to port at the rear of Quadra unit marked 'Hot Outlet'. Trim PVC tubing to correct length using sharp knife. Excess tubing will cause sagging and possible kinking. Push tube onto barb adaptor and fit spring hose clamp. Support may be needed for PVC tube if there is a horizontal run.
3.  Fit braided coupling marked 'UNIT HOT-IN' to matching port. Join to braided coupling marked 'TAP-OUT' using ½" joining nipple.
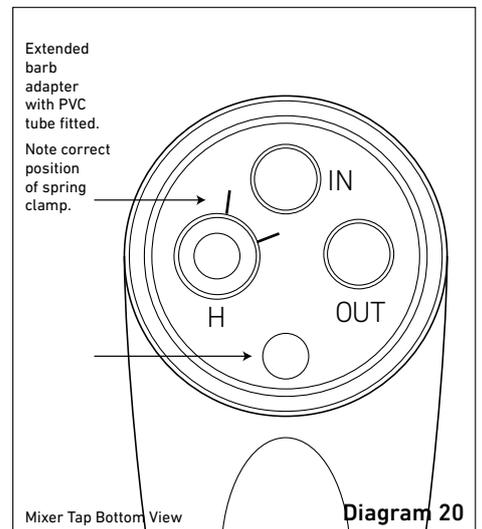
## Operating the Mixer Tap

Operation of the mixer tap is as with any single lever tap. Lift lever to start water flow. Swing to the left for hot water and to the right for cold water.

Hot water will not be available until Quadra boiling water tank has filled and heated Bubbling in the hot water flow indicates insufficient boiling water is available. Wait a few minutes for tank to fill and heat.



Large O-ring, mount clamp plate gasket & brass mount clamp assembly

Locking screws

Mixer Tap Side View

**Diagram 19**



Extended barb adapter with PVC tube fitted.

Note correct position of spring clamp.

IN

H        OUT

Mixer Tap Bottom View

**Diagram 20**



hot in

power supply

dispensor power cord

ambient (blue)

water supply

hot out

boiling (red)

vent (grey)
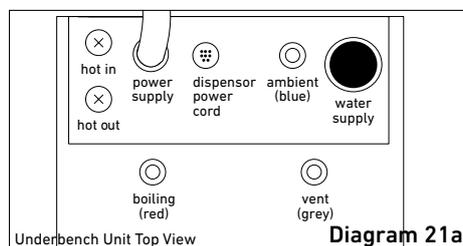
Underbench Unit Top View

**Diagram 21a**



TAP-IN

hot tap outlet PVC tube

TAP-OUT

UNIT HOT-IN

15mm stop tap

**Diagram 21b**

# Commissioning.

### Turn On the Water Supply
Turn on water supply and ensure that there are no leaks. Remove front panel of unit and remove packing foam from under filter canister. Ensure filter canister is securely locked back into place. Replace front panel.

### Power On
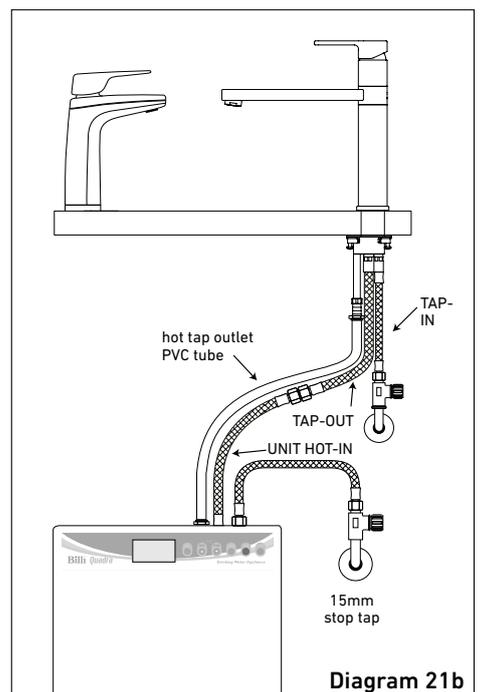When power is applied the system checks the water level in the hot tank and if empty (below the low level sensor) then the unit will enter the boiling point calibration mode. This will normally only occur the first time a new system is turned on.

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.

### Boiling Point Calibration
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 re-calibrate under normal circumstances. If a repeated calibration is required 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.

### Re-check Connections for Leaks
### Explain Operation to User

# Commissioning.

# WARNINGS. ⚠

## INSTALLATION AND COMMISSIONING 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.
- ☐ 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.
- ☐ Door vents fitted correctly (air-cooled models only).
- ☐ Initial program settings correctly set for dispenser tube length.
- ☐ Time (check if daylight savings), day and date set correctly. – Refer to Sahara User Guide.
- ☐ Unit heating and cooling (after initial fill). Red and blue dispenser icons flashing (or on continually when reached temperature).
- ☐ Boiling and chilled water flow correct.

If any difficulties arise contact **Billi Australia Pty Ltd:** Phone 1800 812 321 (Free call). Validate your warranty online at www.billi.com.au
For information on our filtration and service contracts please contact Billi Customer Service on 1800 812 321 or service@billi.com.au.

Scan the QR Code to access the Support page and Shop online.

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 a 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 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.
—**DANGER:** The operation of the thermal cut-out indicates a possibly dangerous situation. Do not reset the thermal cut-out until the water heater has been serviced by a qualified person.
—**WARNING:** Do not connect any restrictor or pressure relief device to the vent pipe of this water heater if installed.
—If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
—New hose-sets supplied with the appliance are to be used and old hose-sets should not be re-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).