



Installation guide
Sahara & Sahara Plus
Tap options XL, XT, XR



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
10. Filter cartridge (installed)
11. User guide
12. Warranty registration card
13. Warning label

Additional Components – XR

14. 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 Diagram 1. Unit must be installed horizontally with plastic vent 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 1/2" BSP stop tap (not supplied) is to be installed in an easily accessible position within 600mm from the Sahara water supply inlet.

Dynamic water supply pressure:

Min. 250 Kpa, max. 1000 Kpa.

(excludes Sahara 310*)

Minimum water supply: 6 l/m at 250 Kpa

Supply temp: min. 5°C, max. 30°C.

* Sahara 310 supply pressure:

Min 200 Kpa - 500Kpa. Where supply pressure is greater than 500 Kpa a PLV must be fitted. Billi recommends PLV's with anti-hammer properties.

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.

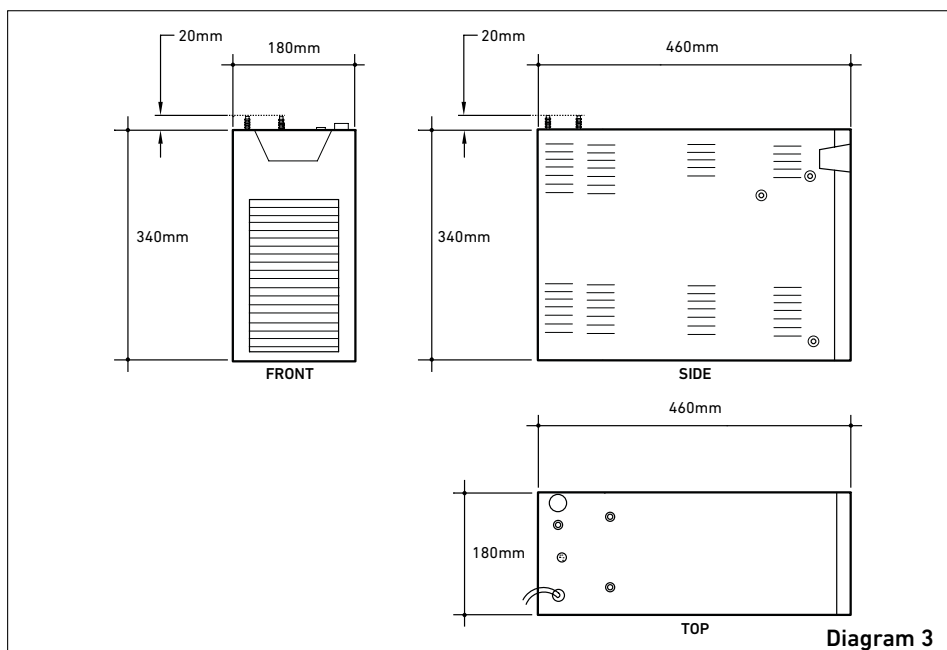
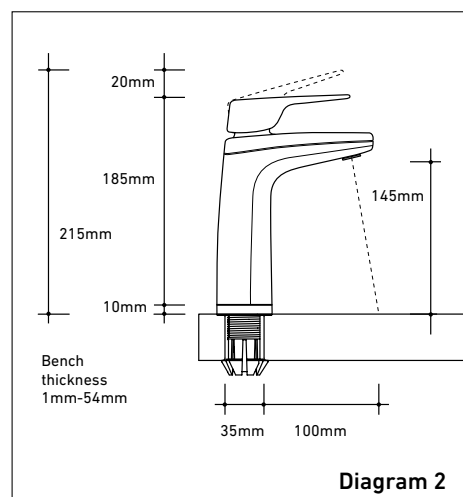
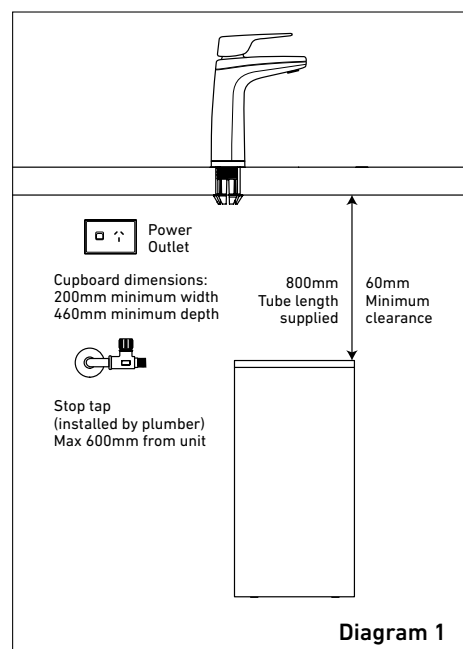
—Power Requirements

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.



Installing the dispenser. XL, XT, XR.

IMPORTANT: This Billi appliance is to be installed by a licensed tradesperson in accordance with AS/NZ 3500 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 $\varnothing 35\text{mm}$.

—Stainless Steel Sinktop

A suitable 35mm hole punch (Part no: 857901) is available as an accessory from Billi 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 54mm. 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. Push out the piece as shown in Diagram 5. This will allow the tap to move 45° to the left and right.

3. Fit Dispenser Base

- Cut a 35mm hole in sinktop or benchtop. Remove burr if protruding upwards.
- Remove the dispenser base from the bottom of the tap. Ensure the barb locking bush is removed from the tap tubing.
- Push barbed mounting shaft through mount hole.
- Insert barb locking bush as shown in Diagram 6 and 7. Finger tighten nut.
- Ensure barb is centred in mount hole before tightening. Check position of base ring and gasket.
- Moderately tighten locking nut using multigrips or spanner. Take care to avoid over tightening nut which may break the plastic threaded shaft.
- Cut off excess threaded shaft with a hacksaw, using washer as a cutting guide.

IMPORTANT: Remove burrs and check internal bore is completely smooth.

4. Fit Dispenser Head Assembly

- Feed dispenser tubing and loom through centre hole in the following order:
 - Dispenser power cord.
 - Silicone tubes.
- 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.
- 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.
- 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 activated check dispenser now swivels smoothly 45° in each direction.

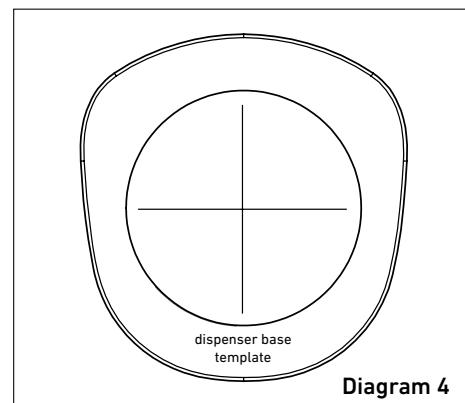


Diagram 4

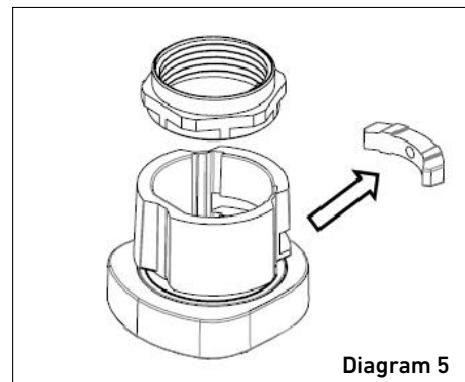


Diagram 5

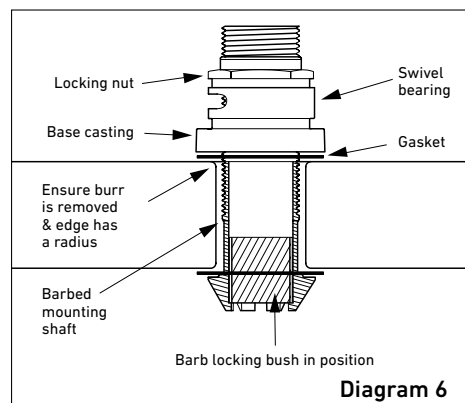


Diagram 6

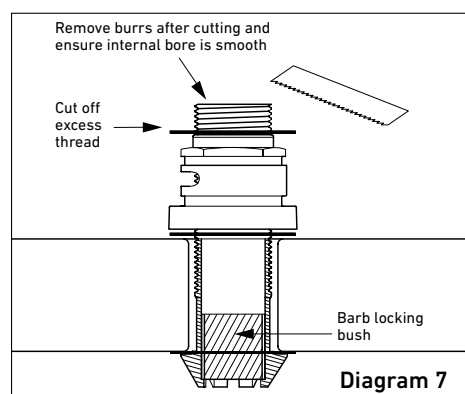


Diagram 7

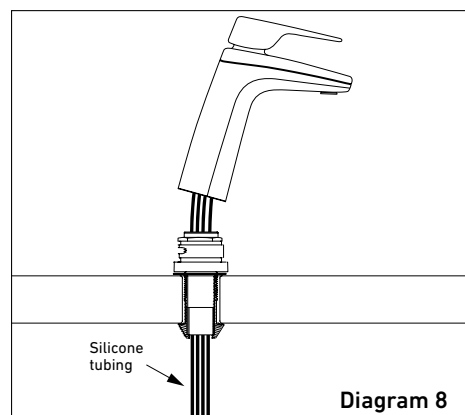


Diagram 8

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.

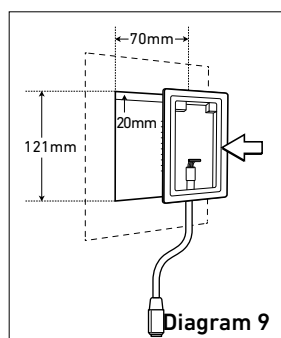


Diagram 9

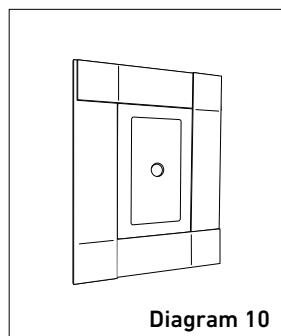


Diagram 10

—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 – see Diagram 11.

Installation is finished – see Diagram 12.

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

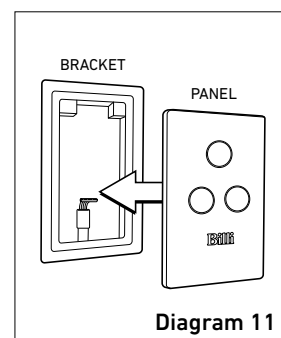


Diagram 11

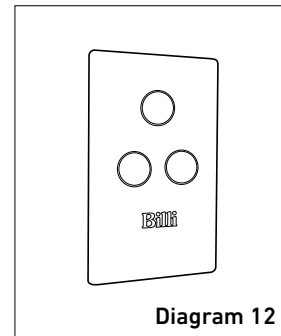


Diagram 12

Additional installation – XR. Proud mount remote panel.

—Determine Remote Panel Location

Cut out cable access hole in the desired location.

Hole size must be 45mm height x 25mm width – 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 phillipshead screwdriver (ensure the spring clips are facing up) – see Diagram 14.

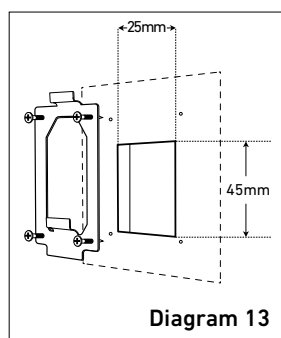


Diagram 13

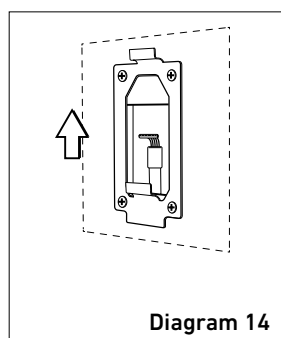


Diagram 14

—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.

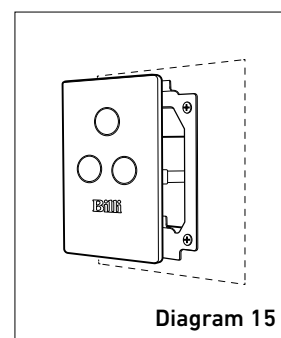


Diagram 15

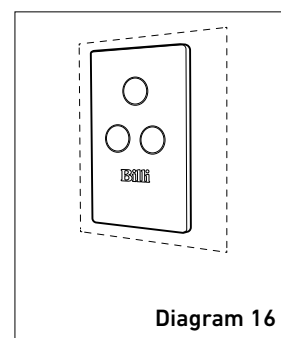


Diagram 16

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) tube 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

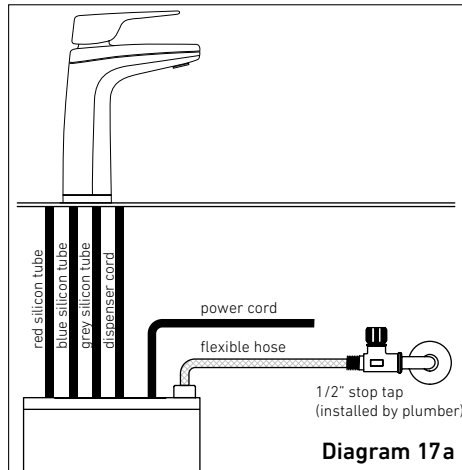


Diagram 17a

Sahara 320, 360, 3120 & Sahara Plus Models

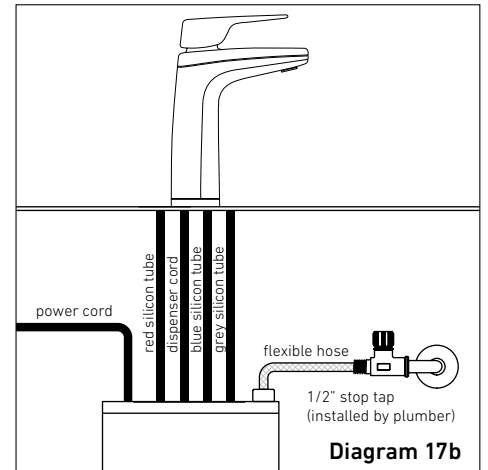


Diagram 17b

Top View

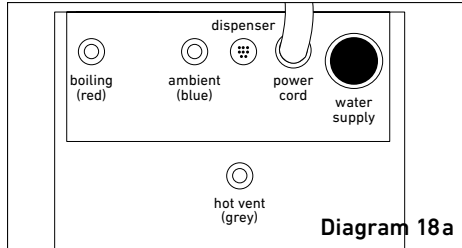


Diagram 18a

Top View

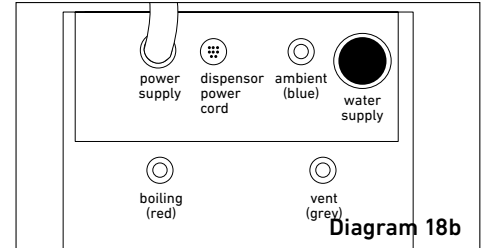


Diagram 18b

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 plate
4. Mount clamp plate gasket
5. Mount stud
6. Extended fixing nut
7. Barb adaptor fitting (short)
8. Barb adaptor fitting (extended)
9. Spring hose clamps x 2
10. ½" joining nipple
11. 1-metre PVC tubing
12. Braided flexible couplings x 3
13. Mixer Tap

—Mixer Tap Mounting Procedure

1. Drill or punch mount hole and deburr.
–Hole size: 35 - 38mm.
–Sink or Benchtap thickness: 1 - 48mm.
2. Feed braided flexible couplings marked 'Water In' and 'Water Out' through mount hole leaving M10 threaded connection ends protruding upwards through hole. Fit O-ring (large) and tap base ring over tubes and sit them in place.
3. Fit barb adaptor fitting (extended) and mount stud to mixer tap body.
4. Push PVC tubing onto barb and fit spring hose clamp. Position hose clamp lugs as shown in Diagram 19.
5. Feed PVC tube down through mount hole alongside braided tubes.
6. Fit M10 threaded tubes into tap body. Match tube labels with tap base markings.
7. Feed tubing through the mount hole and place tap in correct position. Mount stud faces to front of mixer tap. Move lever from left to right to find lever centre position.
8. Fit mount clamp gasket and plate to mounting stud. Note orientation of gasket and plate – see Diagram 20.
9. Ensure tap is positioned evenly over the mount hole and that lever position is correct. Fit and tighten extended nut using a 12mm tube spanner or large flat blade screwdriver.

—Connecting Mixer Tap to Sahara Plus

Fit tubing connections as shown in Diagram 21 and 22.

1. Water supply inlet tube 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 'Hot Inlet' to matching port. Join to braided coupling marked 'Water 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 Sahara 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.

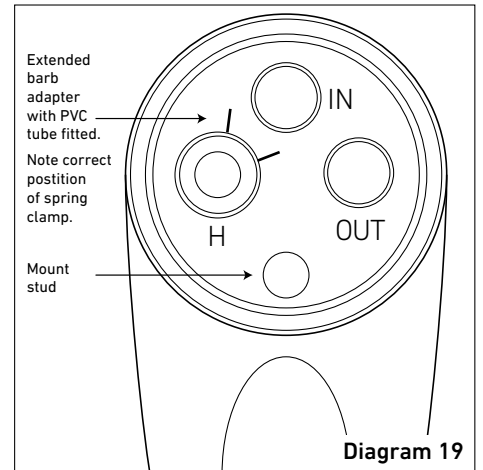


Diagram 19

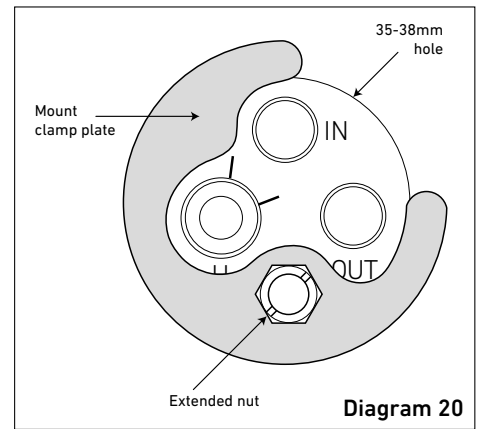


Diagram 20

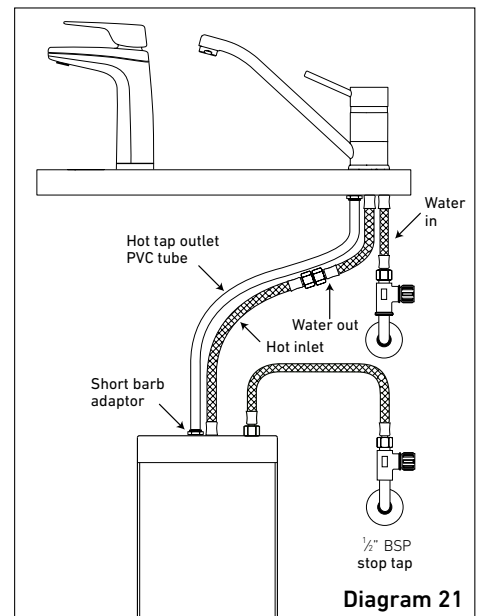


Diagram 21

Birds Eye View

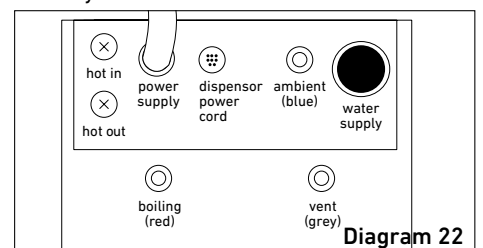


Diagram 22

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 tap 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

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).
- 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 Pty Ltd**: Phone 1800 812 321 (Free call). To validate your warranty refer to the warranty card or validate 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.

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 6 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.