



Installation guide
Sahara & Sahara Plus



Installation requirements.

—Components for Billi Sahara 310, 320, 360 & 3120 Models

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. 450mm flexible braided hose
10. Behind door panel:
 - a. filter cartridge
 - b. user guide
 - c. warranty registration card
11. Ensure a Stop Tap is installed 450mm from the Billi unit water supply inlet (Stop Tap not supplied)

—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 15mm stop tap (not supplied) is to be installed in an easily accessible position within 450mm 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

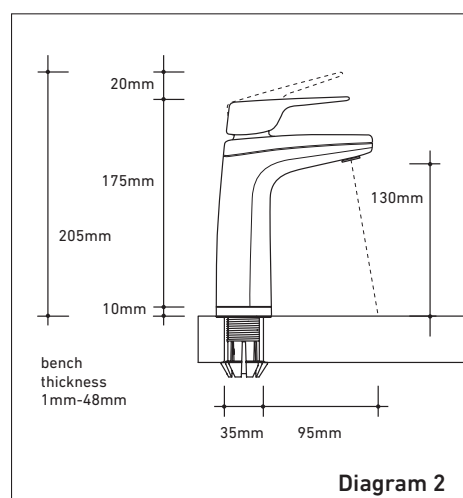
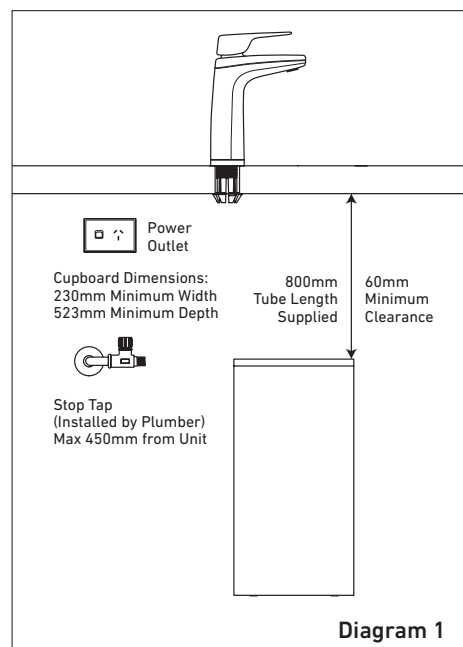
Supply temp: min. 5°C, max. 30°C.

* 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 10 amp standard power outlet is required (15amp for Sahara 3120 & Sahara 3120 Plus). All Sahara modes are supplied with a 1 metre flex cord and plug.



Installing the dispenser.

IMPORTANT: This Billi appliance is to be installed by a licensed tradesperson in accordance with AS 3500.4 or AS/NZ 3500.4.2 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 3) may be cut out and used to assist in correct positioning. Refer to Diagram 2 for clearances allowed. Hole size required is $\varnothing 32\text{mm}$.

—Stainless Steel Sinktop

A suitable 32mm 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. Oil hole punch regularly. Lubricate surface to be cut with detergent.

—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 4. This will allow the tap to move 45 degrees to the left and right.

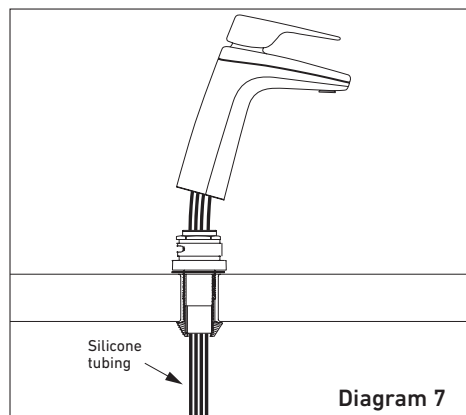
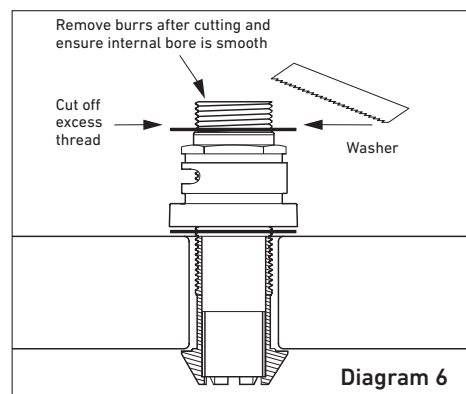
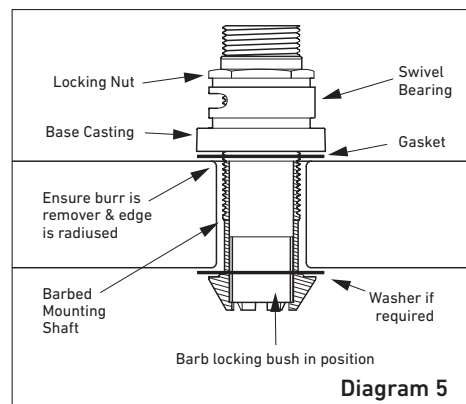
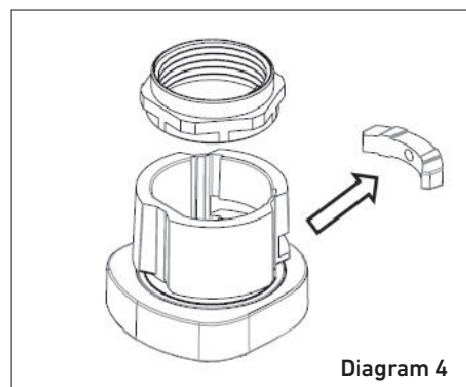
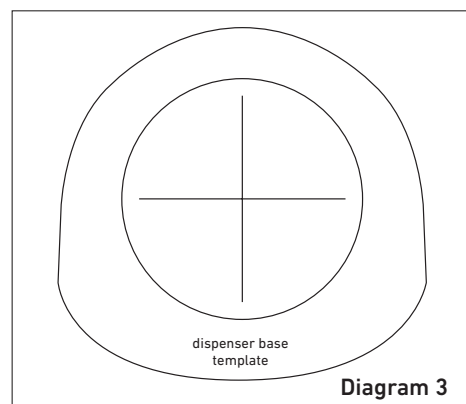
3. Fit Dispenser Base

- Cut a 32mm hole in sinktop or benchtop. Remove burr if protruding upwards.
- Push barbed mounting shaft through mount hole.
- Insert barb locking bush as shown in Diagram 5. 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 overtightening nut which may break the plastic threaded shaft.
- Place large washer over thread as shown in Diagram 6.
- 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

- Lay dispenser head assembly alongside mounting base assembly.
- Feed dispenser tubing and loom through centre hole in the following order:
 - Dispenser power cord.
 - Grey vent silicone tube. Feed tube until reducing joint passes through mount assembly – see Diagram 7.
 - Red and blue silicone tubing. To assist feeding the tubing, we recommend using silicone spray lubricant. 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. Check dispenser now swivels smoothly 45° in each direction.



Installing underbench module.

REMOVE THE FILTER PACKING FROM UNDER THE FILTER CANISTER

1. Flush Water Supply

Flush water supply pipework before installing the underbench unit by connecting 450mm flexible braided hose to the supply tap and running water into a bucket.

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.

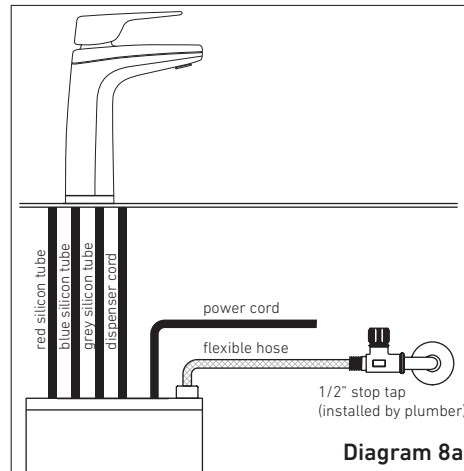
3. Connect Dispenser Tubing and Electrical Plug

IMPORTANT: Boiling outlet (red), vent tube (grey) tube must not be kinked and must be installed with a continual fall and no sag

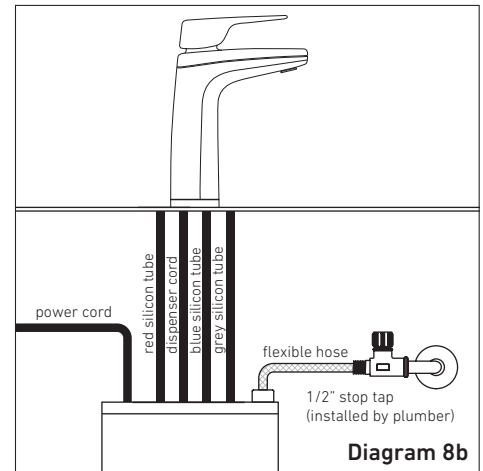
Connect all tubing and electrical plug as shown in diagram 8a & 9a for the Sahara 310 and Diagram 8b & 9b for the Sahara & Sahara Plus 320, 360, 3120 models.

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.

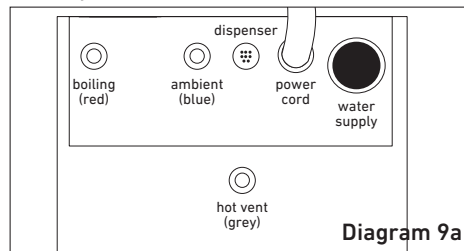
Sahara 310



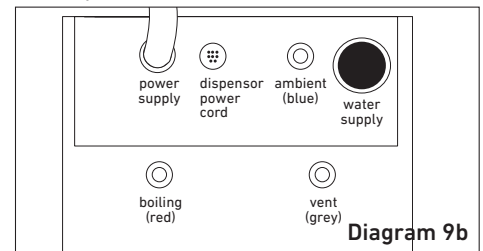
Sahara 320, 360, 3120 & Sahara Plus Models



Birds Eye View



Birds Eye View



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 & extended)
8. Spring hose clamps x 2
9. 15mm (1/2") joining nipple
10. 1-metre PVC tubing
11. Braided flexible couplings x 3
12. Mixer Tap

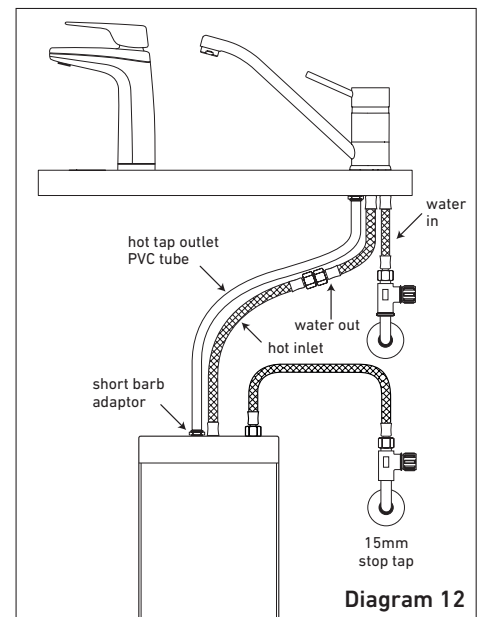
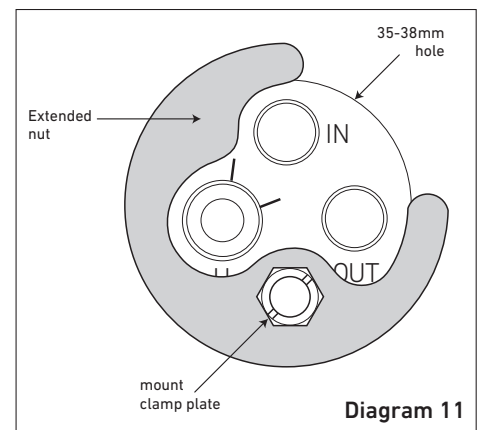
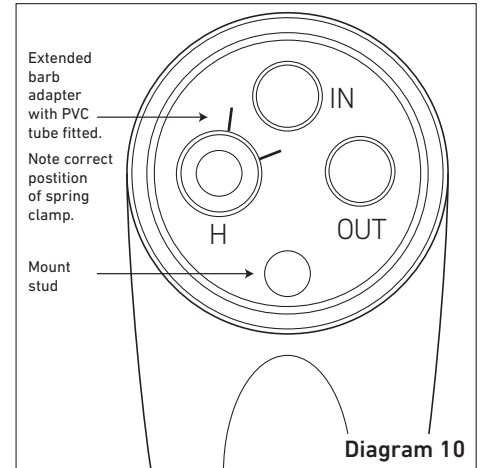
—Mixer Tap Mounting Procedure

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 10.
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 11.
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.

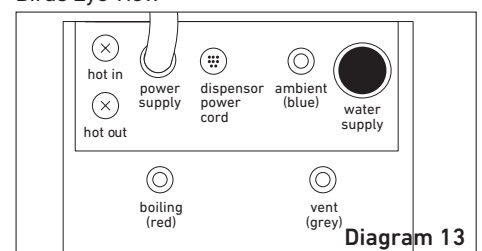
—Connecting Mixer Tap to Sahara Plus

Fit tubing connections as shown in Diagram 12 and 13.

1. Water supply inlet tube incorporates an inline strainer. Connect to 15mm (1/2") 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 15mm (1/2") joining nipple.



Birds Eye View



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 pipe length calibration or 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 1.5°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:

- run the hot water until the hot tank is empty
- immediately turn the power off for 5 seconds, then on again
- the unit will then re-calibrate its boiling point.

—Enter Pipe Length Calibration Mode

To enter SETUP mode, turn on the unit and wait for normal operation. Now depress both the Hot and Cold levers and while they are down, press and hold the safety switch for 3 seconds until the display has changed to yellow, then release the switch and both levers.

Once in SETUP mode, repeat the procedure for entering setup – this will take you to the pipe length calibration mode. The red and white tap indicators will now blink: red slowly and white faster.

To change the pipe length:

- Press and release the Hot(left) Lever to reduce the pipe length.
- Press and release the Cold (right) Lever to increase the pipe length.
- After each press wait for the tap to demonstrate the dispense operation. No water should be dispensed when the correct length is selected.

The best way to determine the correct pipe length setting is to increase the length (by pressing the Cold Lever) until a splash of water is observed, then decrease the length (by pressing the Hot Lever) until no splash is observed.

Press the safety switch to save the new settings.

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 problems or difficulties arise contact
Merquip Ltd, 0800 636-0-636
info@merquip.co.nz

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.

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