

INSTALLATION GUIDE



SAHARA SERIES 3 Drinking Water System

For Sahara Models:
310, 320, 360 and 3120
Sahara Plus

BilliTM
IW

Installation Requirements

Components for Billi Sahara 310, 320, 360 and 3120 Models

Before commencing installation, ensure you have identified the following:

1. Sahara underbench boiling water unit
2. Dispenser upper with tubing
3. Dispenser base & mount
4. Barb locking bush
5. 4mm chrome screw & allen key
6. Large washer
7. User Guide
8. Warranty registration card

Installation Configuration

The Sahara unit preferably should be installed on the lower shelf for best results. Unit dimensions and clearances are as follows:

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

Water Supply

A single cold water supply is required.

Water supply pressure: min. 200kPa, max. 1000 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

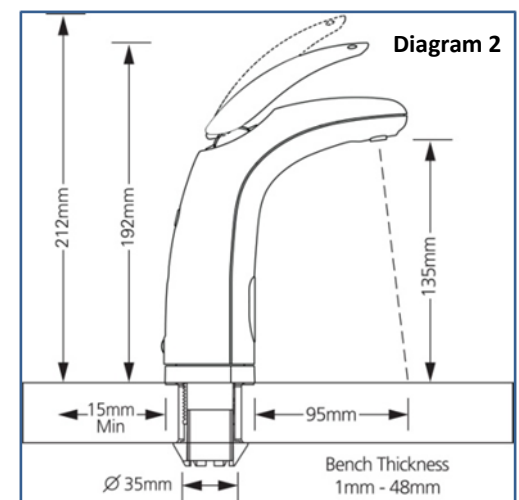
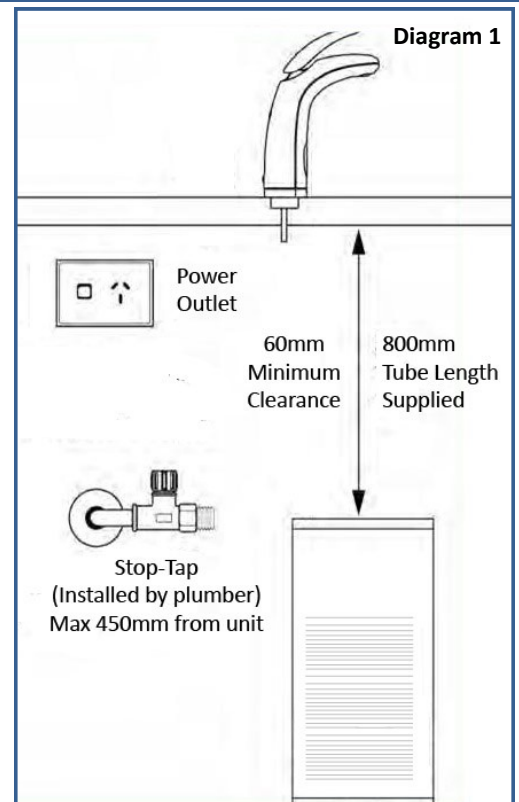
A single 10 amp standard power outlet is required (15 amp for Sahara 3120). All Sahara models are supplied with a 1 metre flex cord and plug.

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.

Determine Component Location

A stop tap (not supplied) is to be installed in an easily accessible position. Determine the location of each of the components, taking into account the tube lengths and space available.

The Sahara unit must be installed upright resting on its feet. Installing module horizontal can cause serious damage which will not be covered by Warranty. Refer to Diagram 1.



Installing Dispenser

Plan Dispense Position

Determine the position of dispenser mounting hole in sinktop or benchtop. Refer to Diagram 2 for clearances allowed. Dispenser base template may be cut out and used to assist in correct positioning. Refer to Diagram 6. Hole size required is 35mm.

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 sinktop surface so that burr is pulled downwards. Alternatively remove burr and radius edge of hole with a 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 48mm. Cut 35mm hole in appropriate position. When drilling through a particle board benchtop, take care to avoid a large chip breaking away as drill breaks through underside surface. We recommend drilling a small pilot hole through the benchtop, partially drilling the 35mm hole from underneath and then completely drilling the hole from above. The large 30mm washer supplied may be used to secure barb where underside particle board benchtop has chipped away.

Fit Dispenser Base

1. Cut a 35mm hole in sinktop or benchtop. Remove burr if protruding upwards.
2. Press barbed mounting shaft through mount hole. Finger tighten nut.
3. Insert barb locking bush as shown in Diagram 3.
4. Ensure barb is centred in mount hole before tightening. Check position of base ring and gasket.
5. Moderately tighten locking nut using multigrips or spanner. Take care to avoid overtightening nut which may break the plastic threaded shaft.
6. Cut off excess threaded shaft with a hacksaw as shown in Diagram 4.

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

Fit Dispenser Head Assembly

1. Lay dispenser head assembly alongside mounting base assembly.
2. Feed dispenser tubing and loom through centre hole in the following order:
 - Dispenser power cord.
 - Grey vent silicone tube. Feed tube until reducing join passes through mount assembly – see Diagram 5.
 - Red and blue silicone tubing. To assist feeding the tubing, we recommend using silicone spray lubricant. Do not attempt to force tubing through with a pointed object as silicone tube is easily punctured. Check tubing is not kinked or twisted.
3. 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.
4. 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.

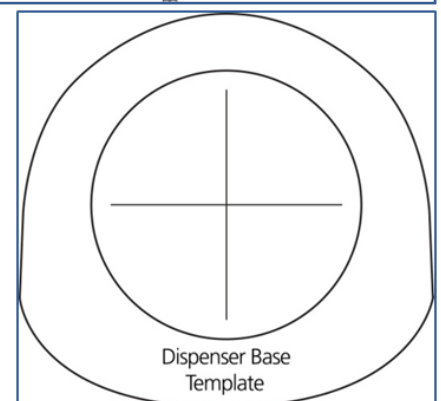
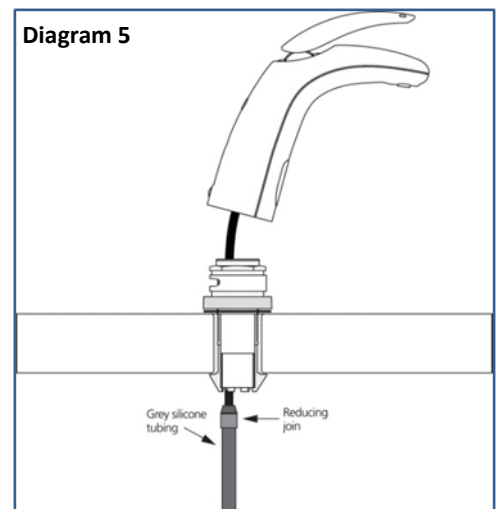
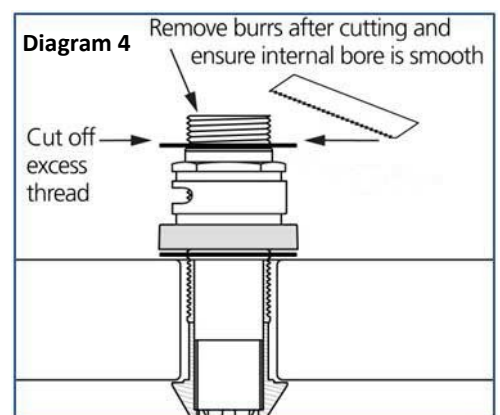
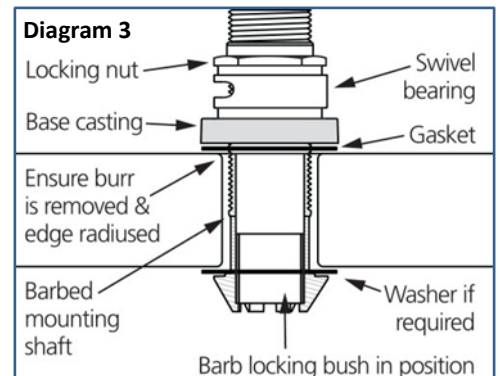


Diagram 6

Installing Underbench Module

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.

Install Underbench Unit

Take care to observe minimum clearances. Ensure there is adequate access to service the unit.

Connect Dispenser Tubing and Electrical Plug

For Sahara 310, connect all tubing and electrical plug as shown in Diagram 7 & 8.

For Sahara 320, 360, 3120, Plus, connect all tubing and electrical plug as show in Diagram 9 & 10.

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

IMPORTANT: BOILING OUTLET (RED) AND VENT TUBE (GREY) MUST NOT BE KINKED AND MUST BE INSTALLED WITH A CONTINUAL FALL.

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 blue tap indicators will now blink: red slowly and blue faster.

To change the pipe length:

- Press and release the Hot Lever to reduce the pipe length.
- Press and release the Cold 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

Sahara 310

Diagram 7

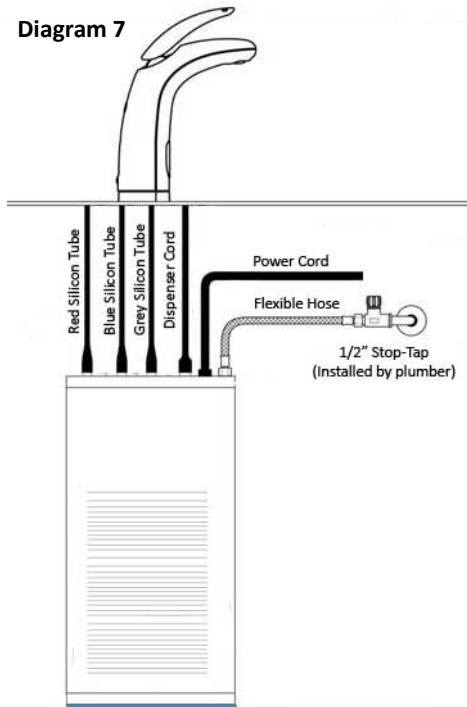
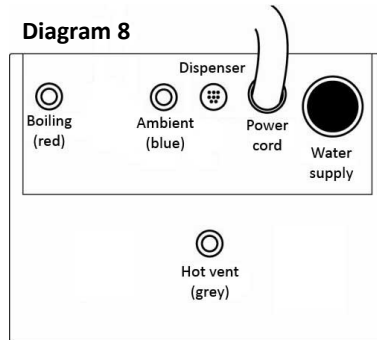


Diagram 8



Sahara 320, 360, 3120, Plus

Diagram 9

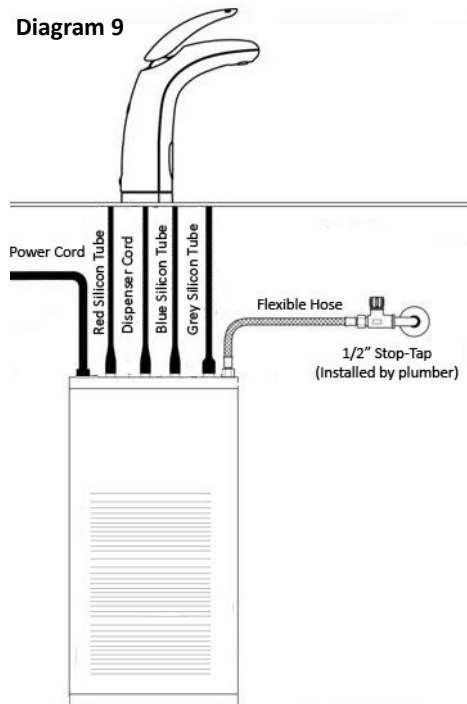
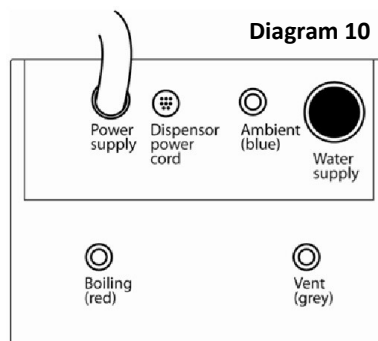


Diagram 10



Installing a Sahara Plus Mixer Tap

Additional Components for Billi Sahara Plus Models

Before commencing installation, identify the following components:

- | | |
|---------------------------------|------------------------------------|
| 1. O-ring (large) | 8. Barb adaptor fitting (extended) |
| 2. Tap base ring | 9. Spring hose clamps x 2 |
| 3. Mount clamp plate | 10. 15mm (1/2") joining nipple |
| 4. Mount clamp plate gasket | 11. 1-metre PVC tubing |
| 5. Mount stud | 12. Braided flexible couplings x 3 |
| 6. Extended fixing nut | 13. Mixer tap |
| 7. Barb adaptor fitting (short) | |

Mixer Tap Mounting Procedure

- Drill or punch mount hole and de-burr.
 - Hole size: 35 – 38mm.
 - Sink or Benchtap thickness: 1 – 48mm.
- 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.
- Fit barb adaptor fitting (extended) and mount stud to mixer tap body.
- Push PVC tubing onto barb and fit spring hose clamp. Position hose clamp lugs as shown in Diagram 11.
- Feed PVC tube down through mount hole alongside braided tubes.
- Fit M10 threaded tubes into tap body. Match tube labels with tap base markings.
- 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.
- Fit mount clamp gasket and plate to mounting stud. Note orientation of gasket and plate – see Diagram 12.
- 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 13 and Diagram 13.

- Water supply inlet tube incorporates an inline strainer. Connect to 15mm (1/2") stop tap.
- Fit short barb adaptor to port 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.
- Fit braided coupling marked 'Hot Inlet' to the rear port marked "Hot Inlet" and join to braided coupling marked 'Water Out' using 15mm (1/2") joining nipple.

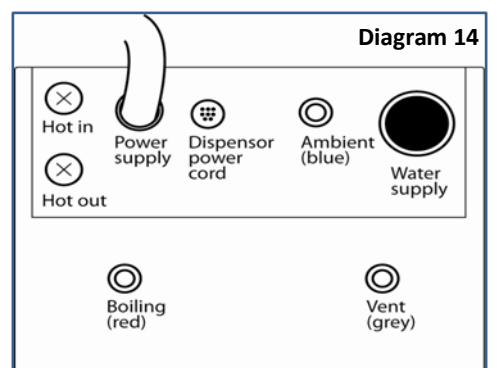
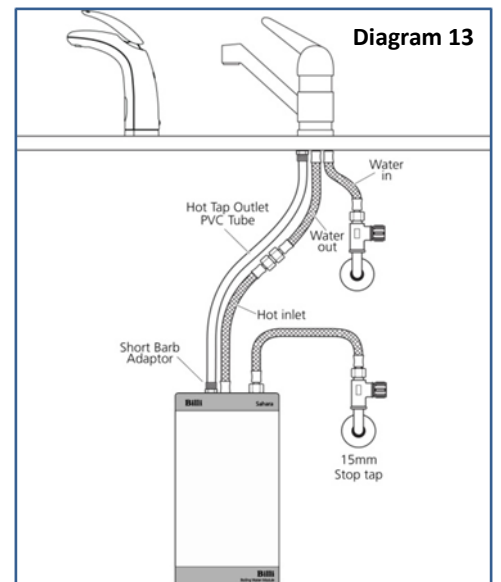
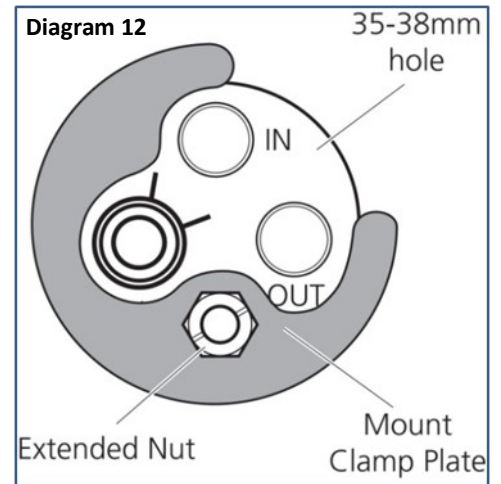
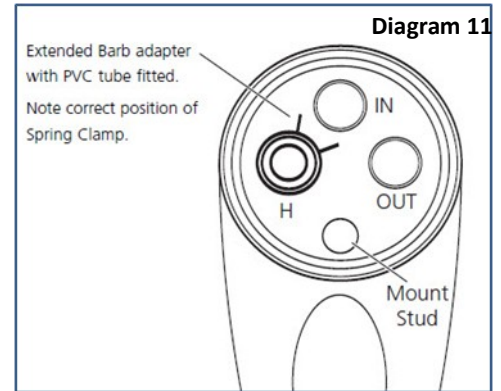
Operating the Mixer Tap

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.



Troubleshooting

1. Hot or cold water will not flow:	1. Are lights showing on dispenser?	Check that the power outlet is ON.
	2. Is the water supply tap OFF?	Turn on water supply tap.
	3. Are the tubes connected correctly?	Refer to diagram and rectify if necessary.
	4. Is the wiring connected correctly?	Refer to diagram and rectify if necessary.
2. Boiling Module will not heat:	1. Is the red symbol on the dispenser flashing?	If Yes, contact your Billi Service Centre.

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