

# Install & Operation Guide

## Dispense options

Chilled & Ambient  
Chilled, Ambient & Sparkling



chilled



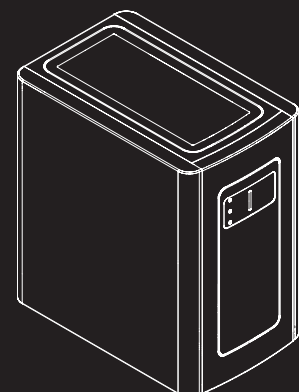
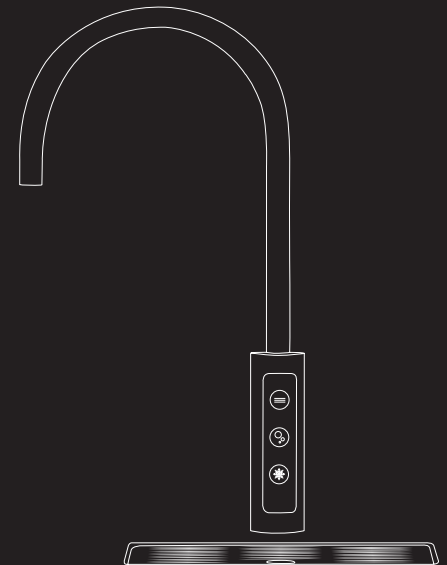
ambient



sparkling

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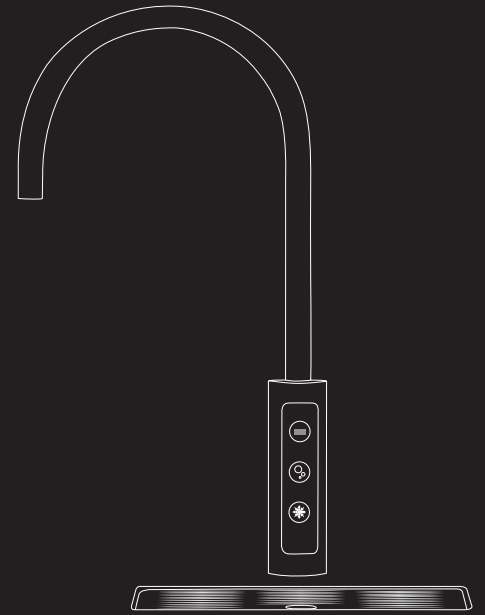
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## u1 Undercounter system All Models



## Range Overview & Features

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# Range Overview & Features

## Introduction

u1 is a range of undercounter water dispensers that are connected to the mains water supply and dispense water through a proprietary swan-neck faucet that is mounted on a work surface.

There are two models in the range:

- u1 Chilled and Ambient
- u1 Chilled, Sparkling and Ambient

## All Types

Both models have robust steel framed cabinets and attractively injection moulded plastic front, side and top panels.

An IEC Power Lead is supplied for connection to the IEC socket found on the rear of all models (An additional Schuko type is supplied for the European market).

Both are Direct Chill cold water dispenser where water is used as the cooling medium in the Direct Chill tank. This is automatically filled and controlled by the level control system upon installation. This tank is then chilled via the outer evaporation coil of the capillary controlled refrigeration compression system. We recommend fitting a Pressure Reducing Valve is fitted to all supplies to regulate the pressure to 3.5 bar/355 kPa.

## u1 Chilled, Sparkling and Ambient Models

On the carbonated water model, water is chilled as it passes through the coil immediately before dispense or being pumped under pressure into the carbonator which it fitted inside the same coil. The carbonator is also level controlled and allows the sparkling effect to occur through saturation with CO<sub>2</sub>.

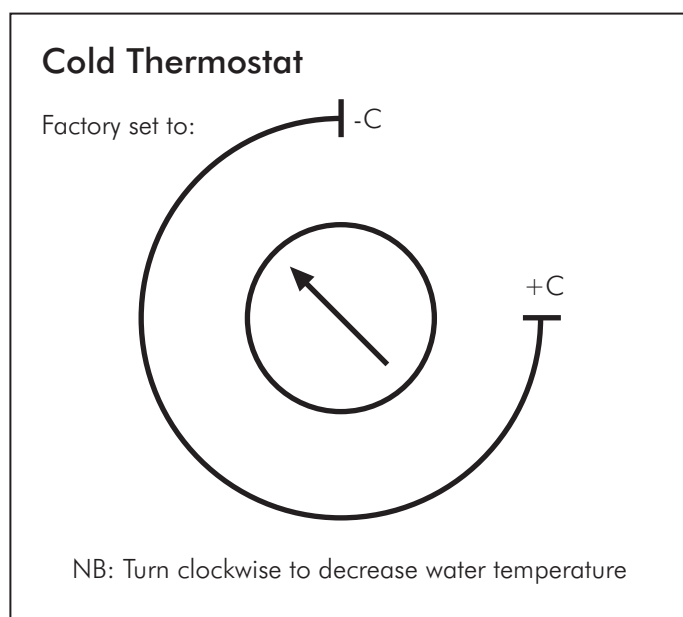
Dispense is at inlet pressure and controlled via the solenoid valves.

The Cold Temperature is thermostatically controlled via the adjustment screw on the back of the machine. This setting is factory set and is not necessary to adjust in most cases

The Cold Tank can be drained via the two Drain Port on the rear of the machine.

The level control system also incorporates a leak detection device within the cabinet which switches the machine off in the event of detecting water.

# Controls



## Chilled & Ambient Models Undercounter Unit

### On/Off switch

At upper rear of machine.

Switches Cooling Operation on/off.

### Cold Thermostat

At rear of machine.

### 10A Fuse

On rear of machine, integral with IEC socket

### Top LED

Colours to show Power is switched on

### Middle LED

Colours to show Cooling Mode is switched on

### Bottom LED

Colours to show when compressor is operating/  
water is above set point

## Control Button Panel

### Ambient Button (Top)

Press to dispense ambient water

### Cold Button (Bottom)

Press to dispense Cold water

## Chilled & Sparkling Models Undercounter Unit

### On/Off switch

At upper rear of machine.

Switches Cooling Operation on/off.

### Soda switch

Switches Sparkling Operation on/off.

### Cold Thermostat

At rear of machine.

### 10A Fuse

On rear of machine, integral with IEC socket

### Top LED

Colours to show the Sparkling Operation is  
switched on

### Middle LED

Colours to show Cooling Mode is switched on

### Bottom LED

Colours to show when compressor is operating/  
water is above set point

## Control Button Panel

### Ambient Button (Top)

Press to dispense ambient water

### Sparkling Button (Middle)

Press to dispense Sparkling Water

### Cold Button (Bottom)

Press to dispense Cold Water

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**DURING NORMAL OPERATION THE ONLY LED INDICATORS  
ARE THOSE ON THE FRONT PANEL OF THE UNDERCOUNTER UNIT**

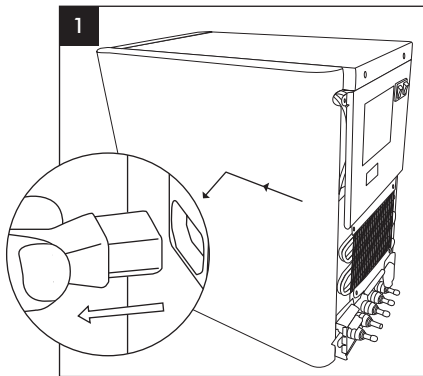
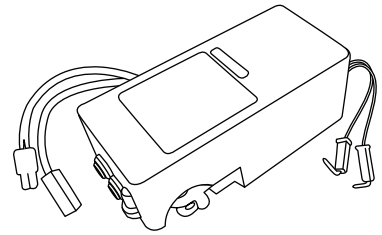
# Leak Detection

**Notice:**

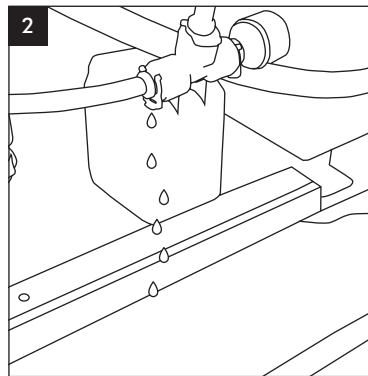
This machine is equipped with a leakage detection device. When leaking is detected, the dispense operation will be cut off automatically.

This is indicated by the alarm signalling as also described above.

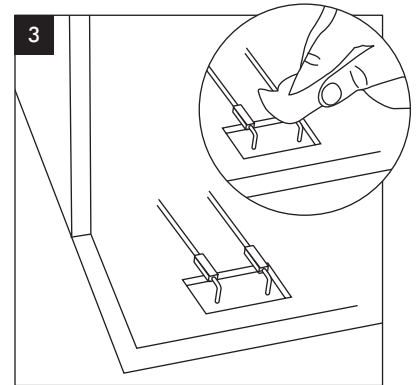
To reset:



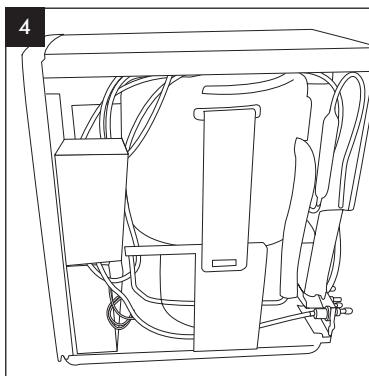
1 Unplug the machine and remove the left side plate.



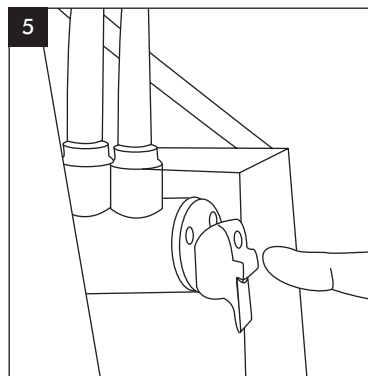
2 Locate the source of leakage and rectify.



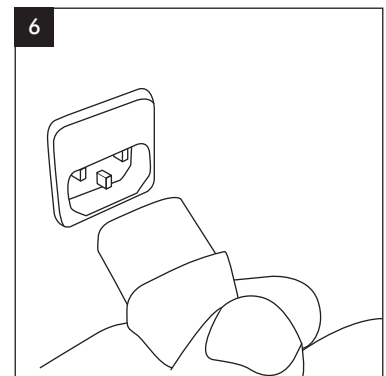
3 Locate the detection probe which can be found in the bottom front left hand corner. Dry the probes and internal area with a dry cloth.



4 Locate the Leak Detector valve.



5 Reset the red lever (push it in).



6 Reconnect the power to machine and test operation.



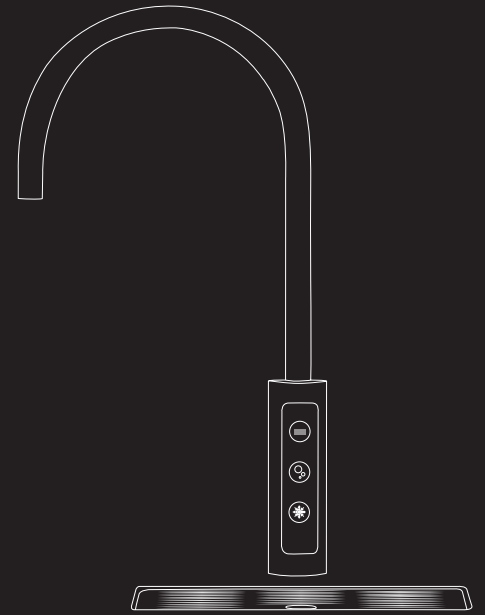
# Specification

COOLING SYSTEM	u1 All Systems	High efficiency compression system with capillary control. Premium quality long life hermetic compressor. Compact internal condenser – fan assisted for greater efficiency. Environmentally friendly R134A refrigerant.
		3.5 litre stainless steel chiller tank with level control containing stainless steel cold water direct chill coil.
		Stainless steel carbonator tank with independent level control fitted inside coil.
COLD TEMPERATURE		2°C to 11°C.
THROUGHPUT PER HOUR		18 litres cold < 12°C / 16 litres sparkling < 12°C.
DISPENSE		Swan Neck Faucet with ergonomically designed and situated light touch sensitive controls.
MAXIMUM RUNNING POWER CONSUMPTION		85-100 watt. Cooling. (Additional intermittent carbonation usage). (BK5 0.7A/ BK9 1.5A)
POWER SUPPLY		IEC Power – Fused Socket.
WATER CONNECTION		Mains in (3.5bar max) - 1/4" Push Fit/Faucet - 6mm Push Fit .
CO2 CONNECTION		1/4" Push Fit.
UNDERCOUNTER DIMENSIONS		(w x d x h) 230 x 360 x 390mm
WEIGHTS	Chilled & Ambient	Undercounter Unit only - 15.0 kg/Faucet - 1.3kg
	Chilled, Ambient & Sparkling	Undercounter Unit only - 17.1 kg/Faucet - 1.3kg



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# u1 Chilled & Ambient Model



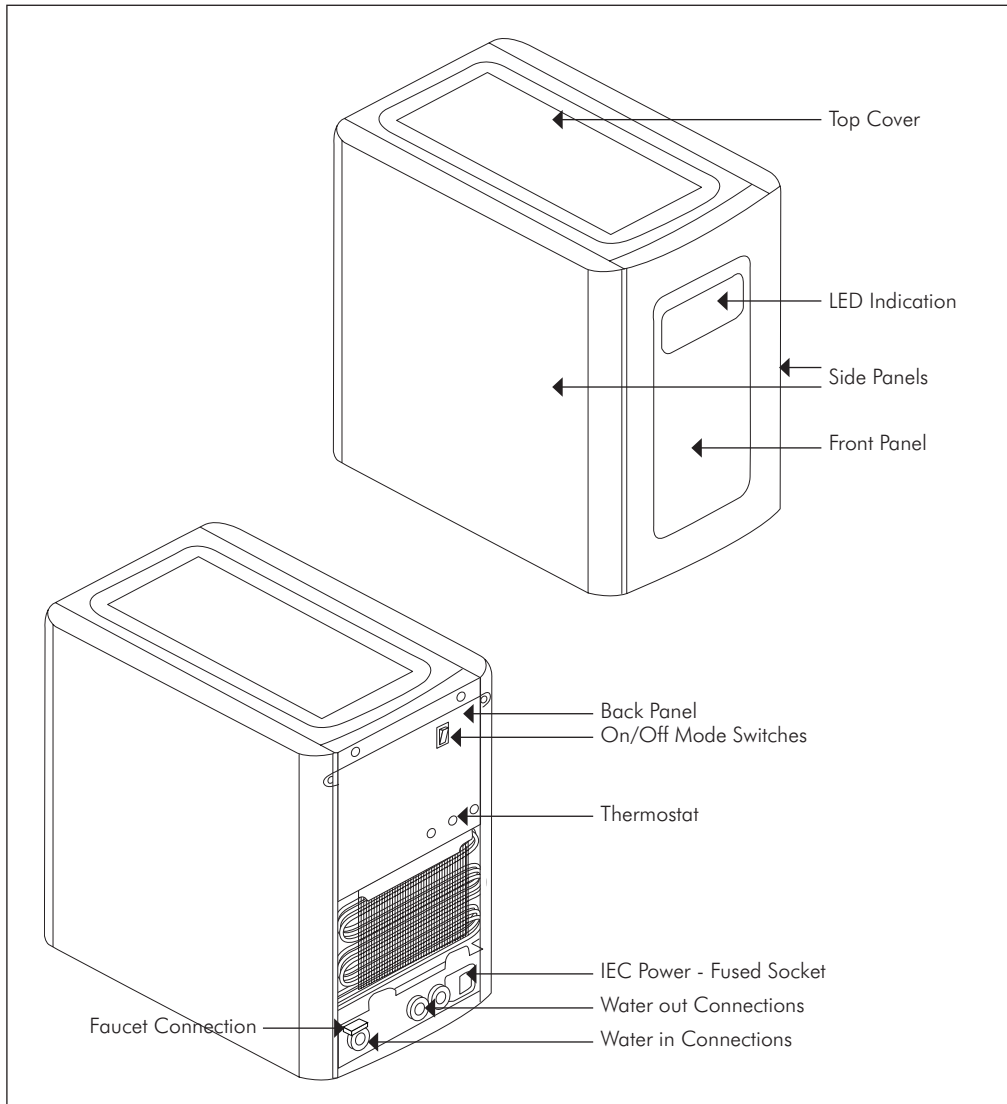
## Installation & Operation

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# Major Components



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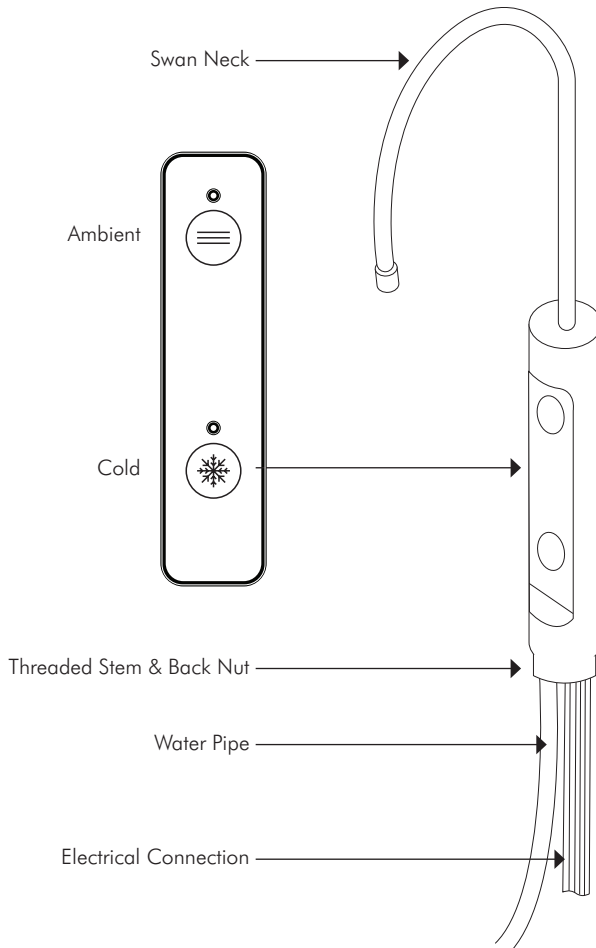
## Undercounter Unit Contents:

### u1 Chilled & Ambient

- 1 no Undercounter Unit
- 1 no 2.0m Power Cord Set
- 1 no 1.0m Faucet Connection Harness

# Major Components

## Electronic Swan Neck Faucet



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## Electronic Swan Neck Faucet Contents:

### u1 Cold & Ambient

- 1 no Electronic Swan Neck Faucet
- 1 no 2-Button Membrane Switch
- 1 no 1.0m x 6mm Insulated Water Pipe

### Also Included:

- 1 no 2.0m x 1/4" Faucet Connection Pipe
- 1 no 1.0m Faucet Connection Pipe Insulation
- 2 no 1/4" Stem Elbow
- 1 no 1/4" Y Fitting
- 1 no 1/4" Male Threaded Adaptor
- 1 no 6mm Female Threaded Adaptor

### Please Note:

Mains Installation Kit & Filters are supplied as extra items according to individual ordering requirement.

# Positioning

**1**

Identify a suitable location for the undercounter unit. It should be positioned within 1.0m of the faucet, and within 2.0m of a suitable services connections:

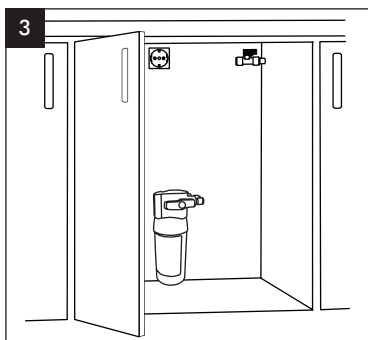
**Service Requirements**

Water: Mains potable water – 2.0bar recommended. Min 1.0bar  
 Electricity: 16A supply – Earth Leakage Protected.

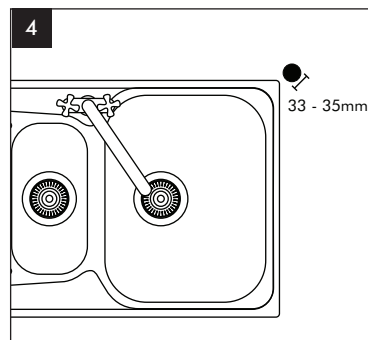
**2**

Position correctly with at least 150mm behind the unit, at least 25mm each side and 100mm above.

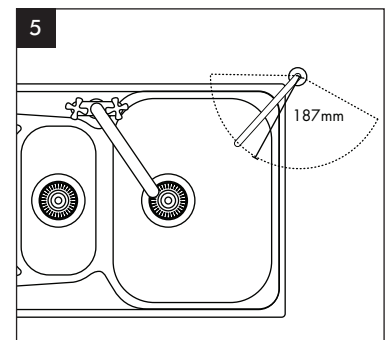
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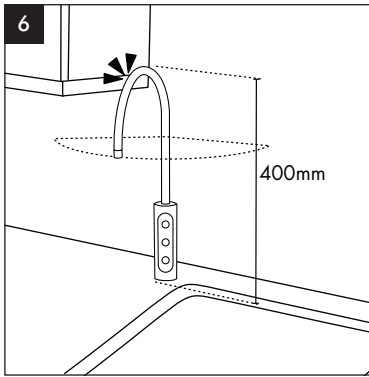
When planning and providing for the connection to the services, always allow for easily accessible service isolator fittings and for the position of an external water filter.



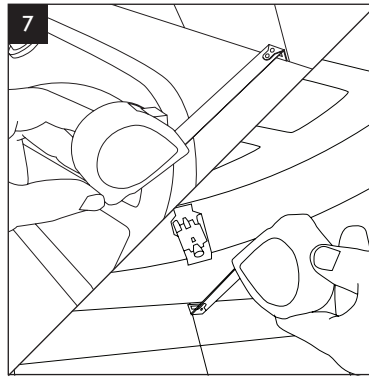
Identify a suitable position for the swan neck faucet. A 33-35mm (max) hole is required



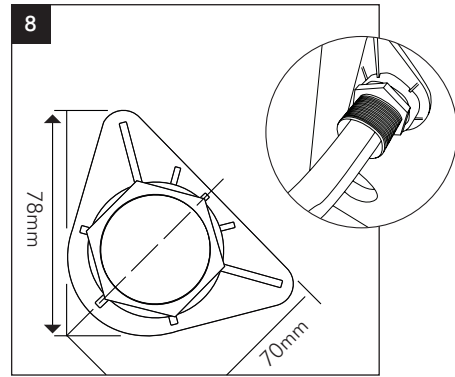
When positioning to drain over an existing sink bowl, allow for the reach of the swan neck or otherwise the position of any optional drip tray



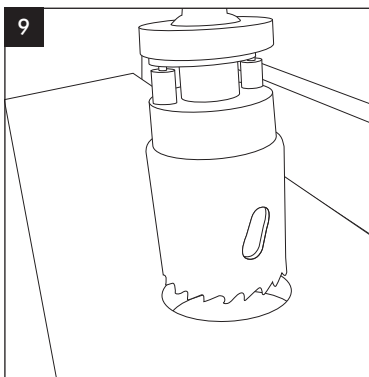
Also allow for the height of the swan neck under any overhanging cupboard/shelf.



Allow for the space needed for forming the required hole. Relate the selected position to the underneath of the counter and check for any obstructions.

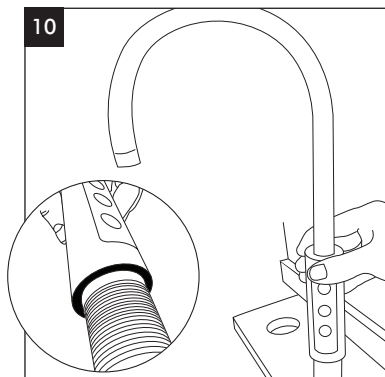


Allow sufficient space for fitting a back nut to the faucet stem

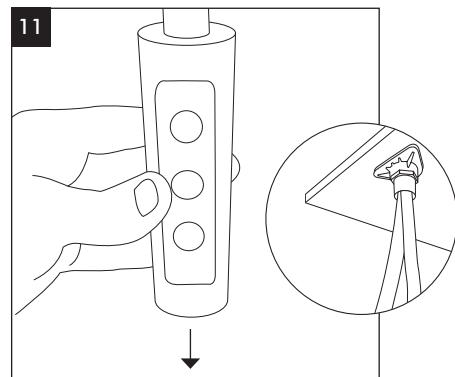


Carefully form the needed hole, using the correct type of cutter for the work surface material.

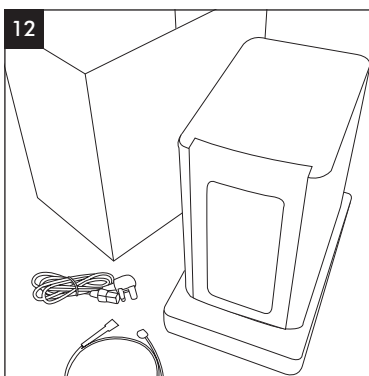
**Observe all local occupational health and safety requirements.**



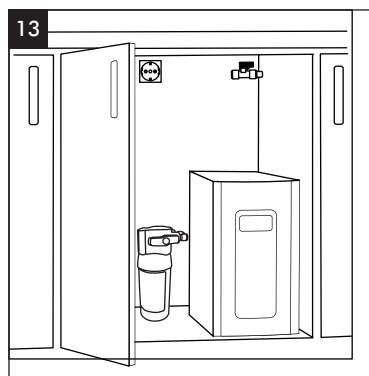
Remove the back nut and washer from the faucet and carefully feed the connecting pipe tail and ribbon cable through the hole formed in the work surface. Ensure the sealing O ring is pre-fitted in the base of the faucet. You may want to apply a thin bead of silicone sealant also.



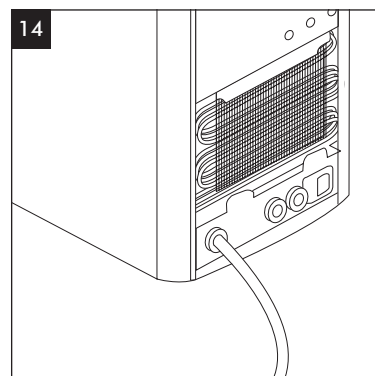
With the faucet control panel in the right position, carefully refit the back washer and nut. Take care not to over-tighten.



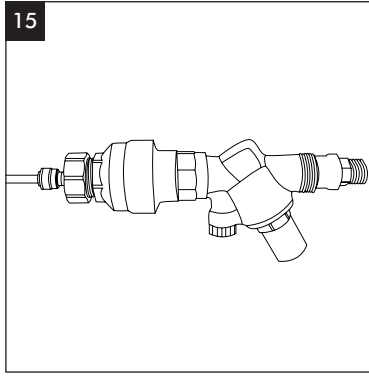
Check the main components are present as per the lists on pages 12 & 13.



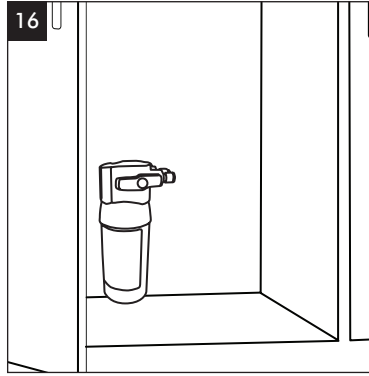
Position the unit in place, ensuring it is level and stable.



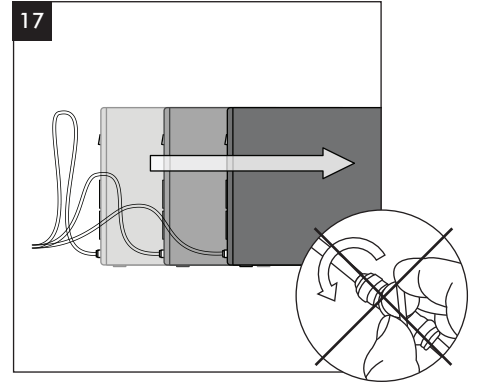
Connect to the water supply



The maximum recommended inlet pressure is 3.5bar. We recommend fitting a check valve, a pressure reducing valve and a 'Waterblock' device. (These are available as part of our optional Installation Kit). When fitting a Waterblock device we recommend a minimum setting of '2' be used.



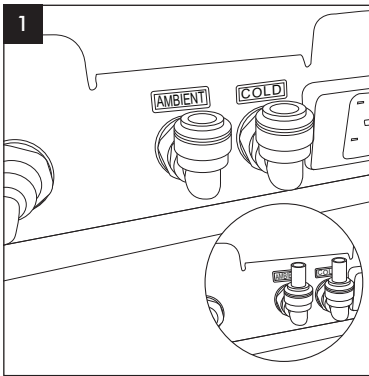
Pre-flush and fit the filter in an accessible position



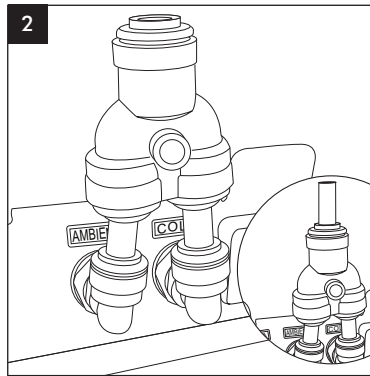
and always allow adequate connecting pipe length to enable the unit to be sufficiently moved for any future disconnection. Do not turn the water supply on at this stage.



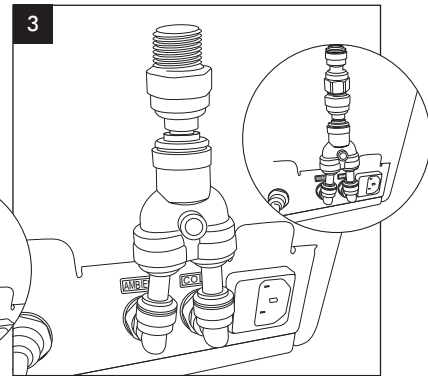
# Water Connection



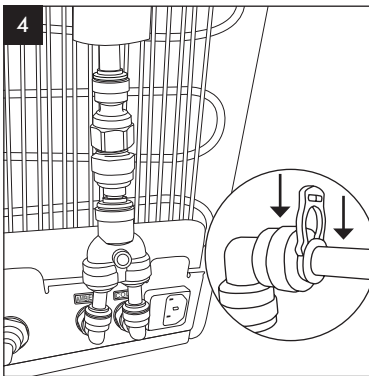
1 Connect faucet pipework as follows: Fit 2 x Stem Elbows directly to water outlets on back of unit. Then fit 30mm pieces of tubing to each Stem Elbow.



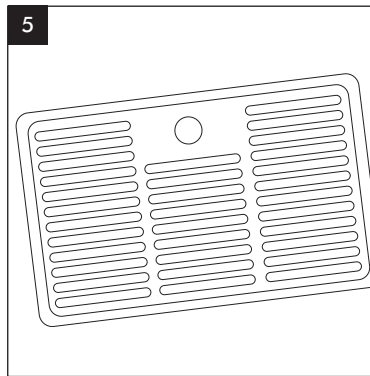
2 Fit Y Fitting next followed by another 30mm piece of tubing.



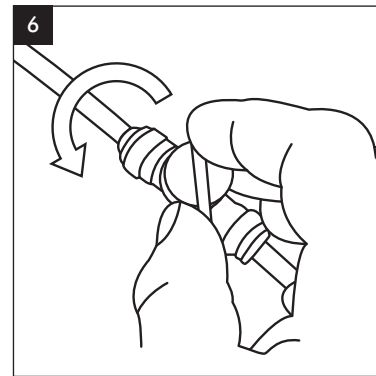
3 Fit the male threaded adaptor fitting and the female threaded adaptor fitting



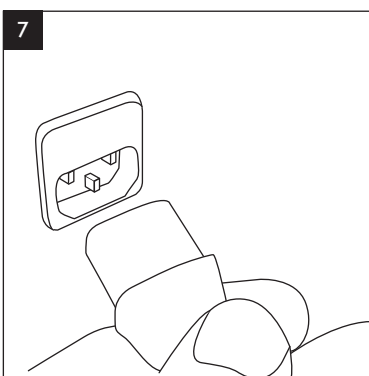
4 Connect to insulated faucet pipe.



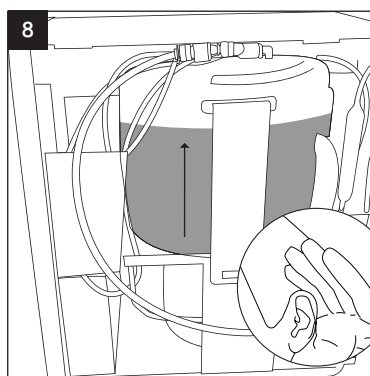
5 Fit optional Drip Tray at this stage (if selected)



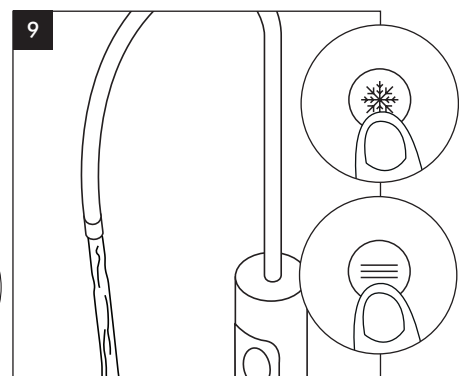
6 Turn on the water supply and check for any leaks.



7 Connect the IEC power cord-set to the electricity supply.



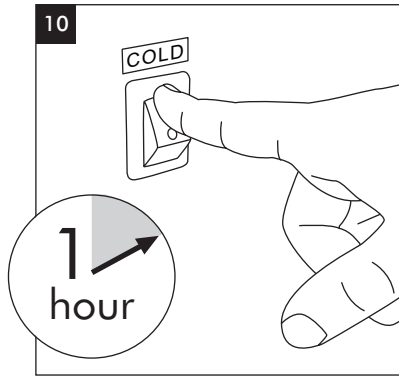
8 The Direct Chill system should now be heard to begin filling. This may continue for a few minutes depending upon water pressure. (NB: Any immediate whining noise from the DC pump should soon stop as the water level in the system rises).



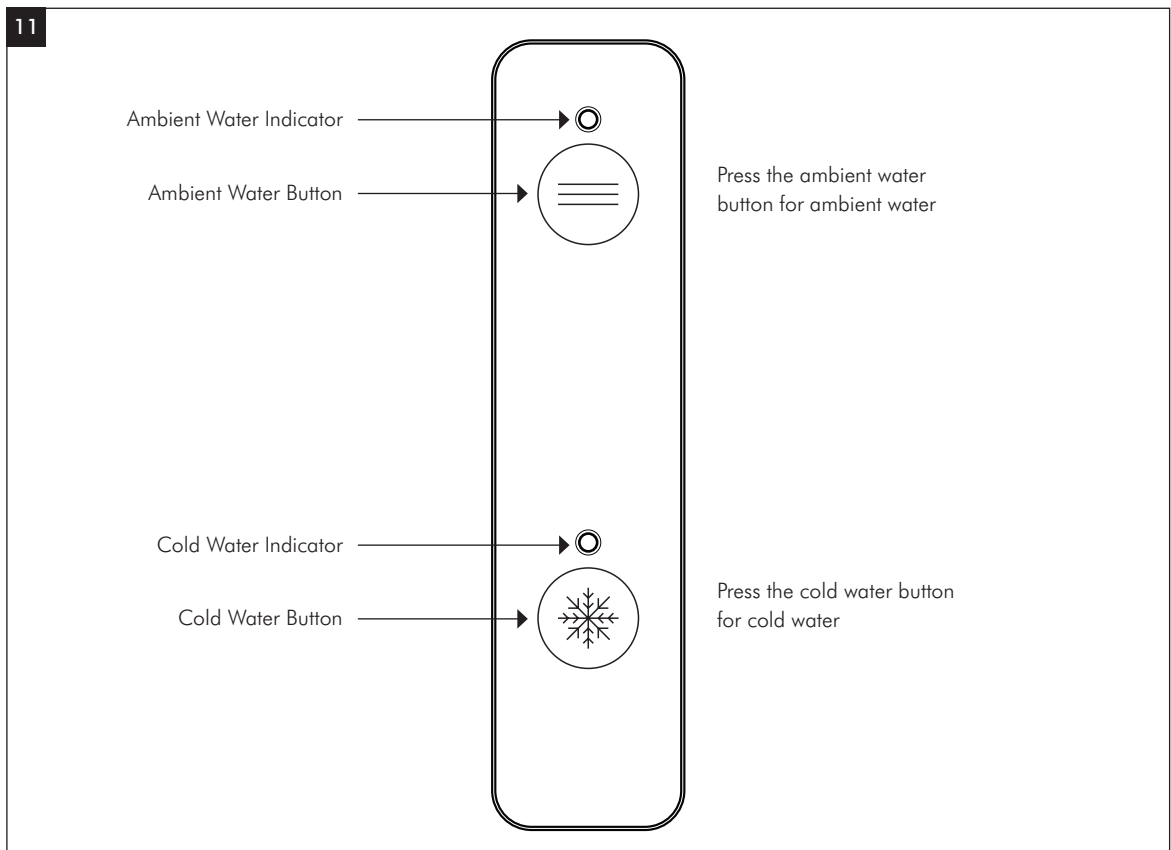
9 Upon the filling cycle completing, proceed to flush the cold and the ambient water channels using these buttons on the faucet control panel. We recommend that a minimum of 10lts is flushed through the unit. (Cold approx. 8 lts and Ambient approx. 2 lts).

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**NB: The integrated leak prevention control will prevent any continuous dispense of >60 secs and could occur while carrying out this prolonged dispensing. When it occurs the dispense will stop and a beeping noise will sound. To reset momentarily release the button and press again.**

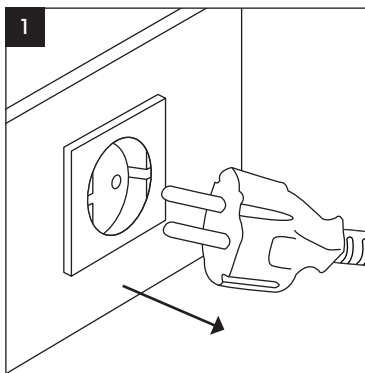


Switch on the Cooling Mode and allow up to 1 hr for the initial cooling cycle

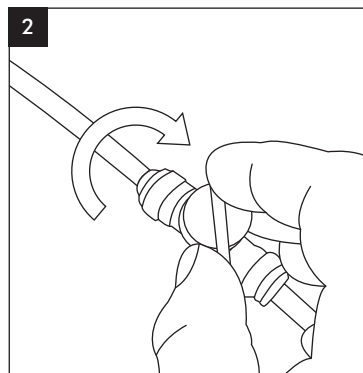


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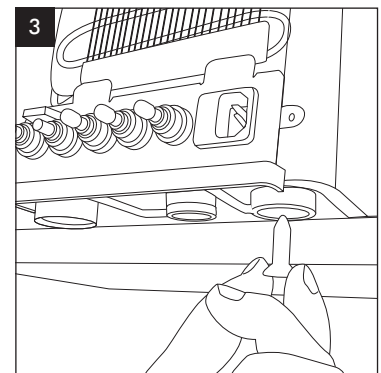
## Maintenance & Removal



Please make sure the machine is completely disconnected from electricity before carrying out any maintenance work.

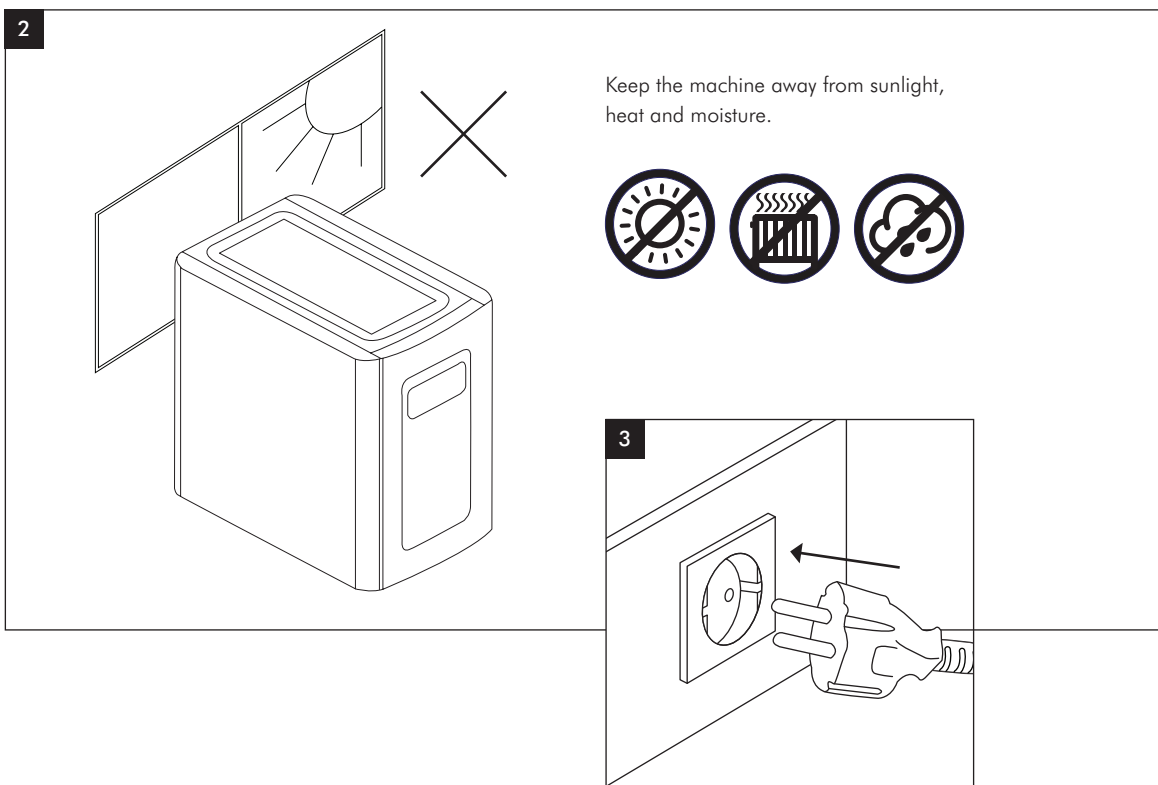
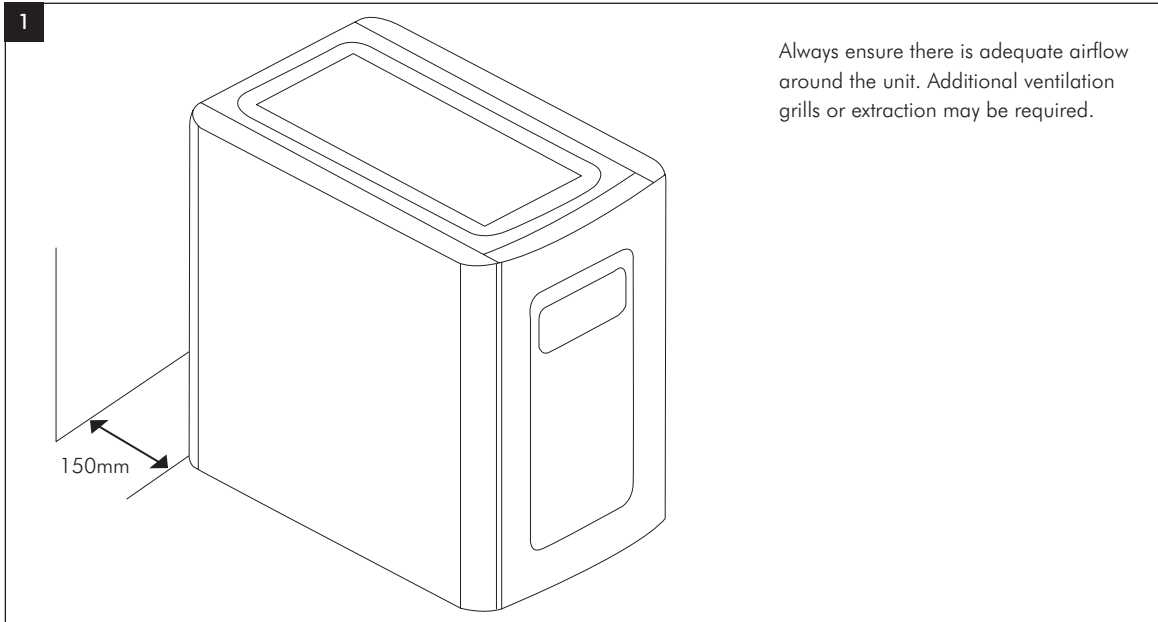


Turn off the water supply.



To drain the Direct Chill tank, remove the cap on the back of the machine. We recommend it is refitted immediately upon draining being completed.

# General Safety Advice

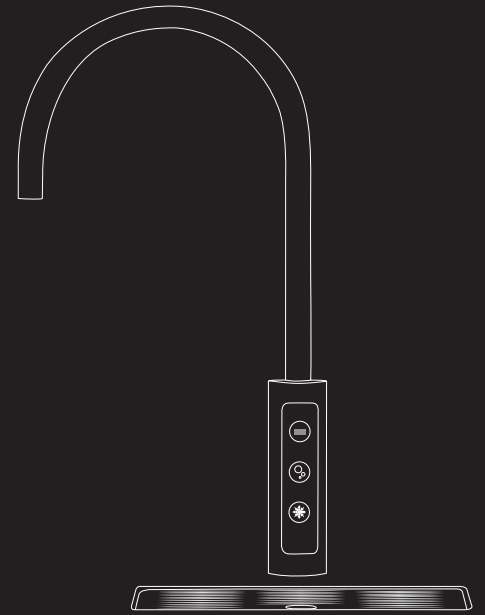


Be sure to use single outlet socket with correct power voltage. Plug the power cord directly into the electrical socket.



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# u1 Chilled, Ambient & Sparkling Model



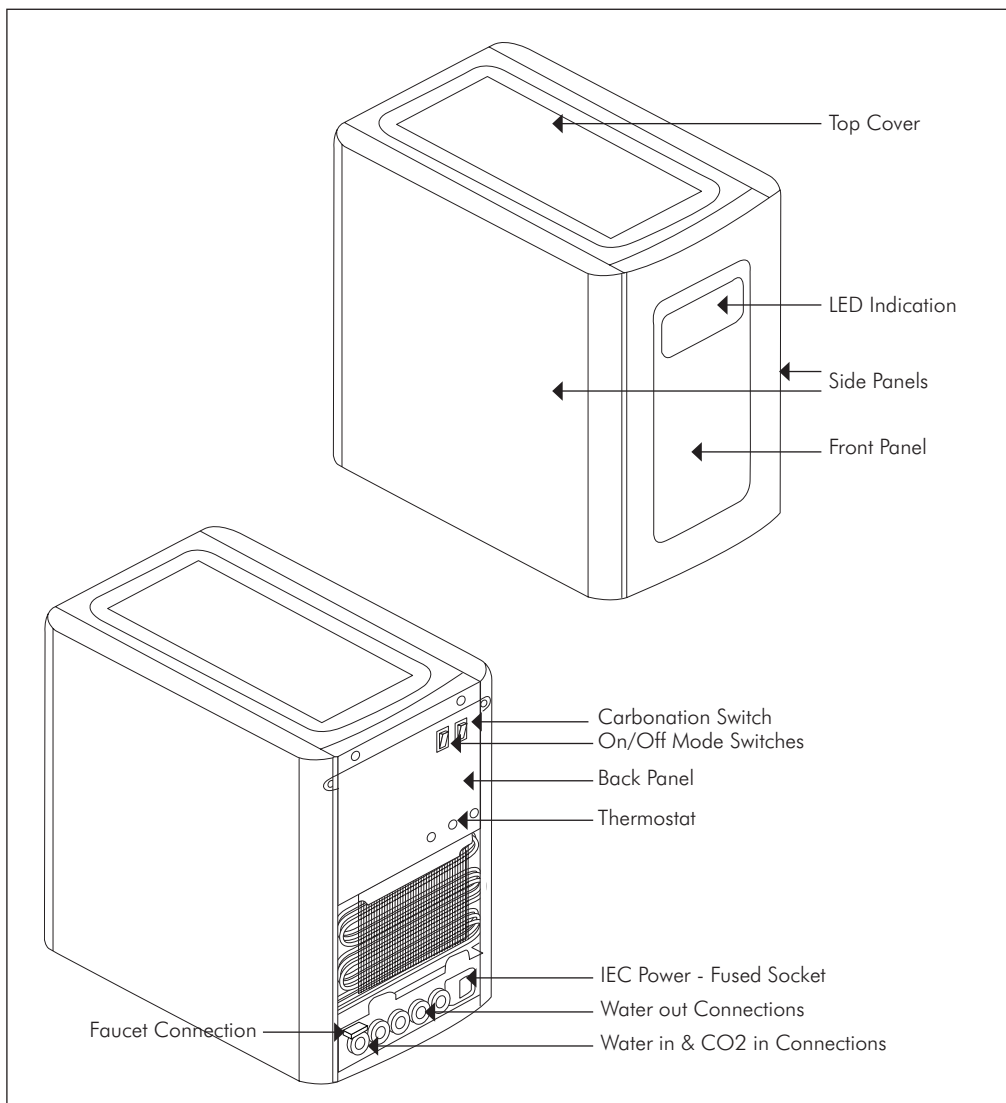
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# Major Components



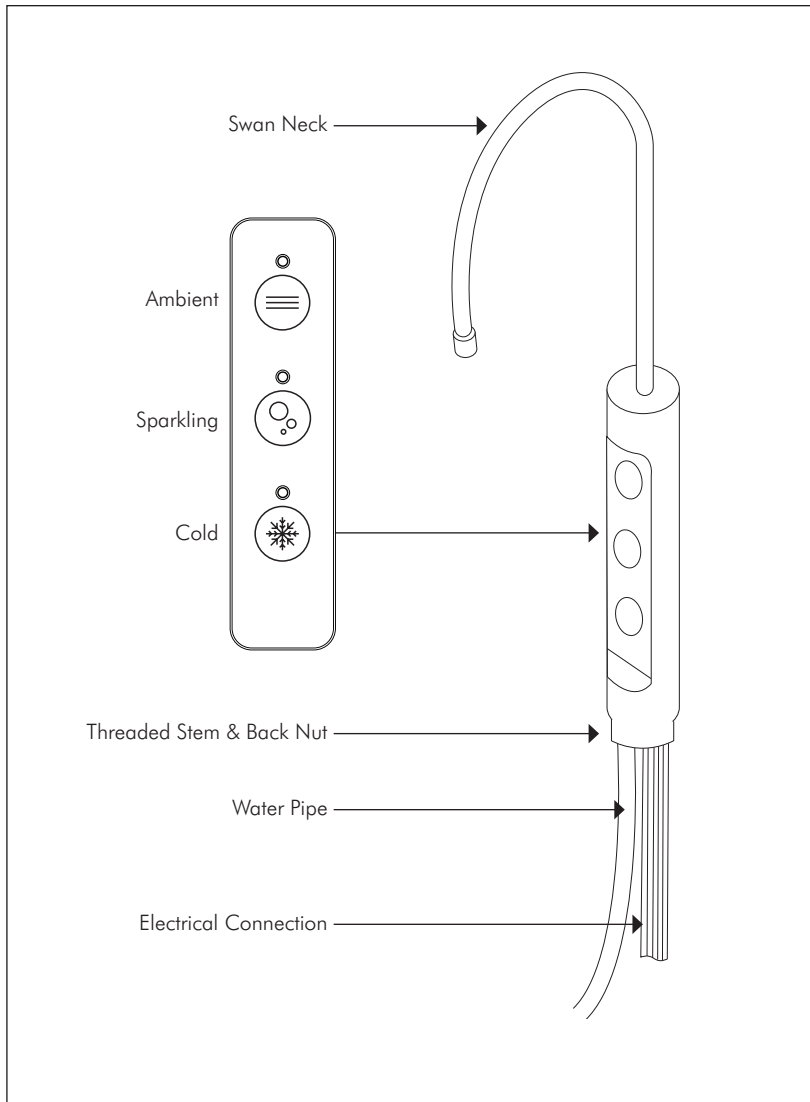
## Undercounter Unit Contents:

### u1 Chilled, Ambient & Sparkling

- 1 no Undercounter Unit
- 1 no 2.0m Power Cord Set
- 1 no 1.0m Faucet Connection Harness
- 1 no CO2 Regulator with Gauge

# Major Components

## Electronic Swan Neck Faucet



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### Electronic Swan Neck Faucet Contents:

#### u1 Chilled, Ambient & Sparkling

- 1 no Electronic Swan Neck Faucet
- 1 no 3-Button Membrane Switch
- 1 no 1.0m x 6mm Insulated Water Pipe

#### Also Included:

- 1 no 3.0m x 1/4" Faucet Connection Pipe
- 1 no 2.0m Faucet Connection Pipe Insulation
- 5 no 1/4" Stem Elbow
- 1 no 1/4" Cross Fitting
- 1 no 1/4" Male Threaded Adaptor
- 1 no 6mm Female Threaded Adaptor

# Positioning

**1**

Identify a suitable location for the undercounter unit. It should be positioned within 1.0m of the faucet, and within 2.0m of a suitable services connections:

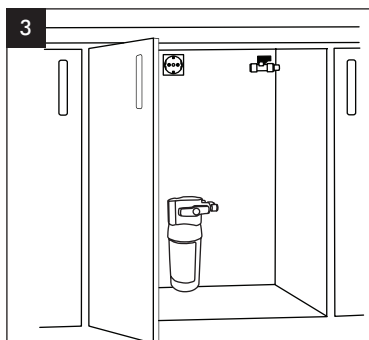
**Service Requirements**

Water: Mains potable water – 2.0bar recommended. Min 1.0bar  
 Electricity: 16A supply – Earth Leakage Protected.

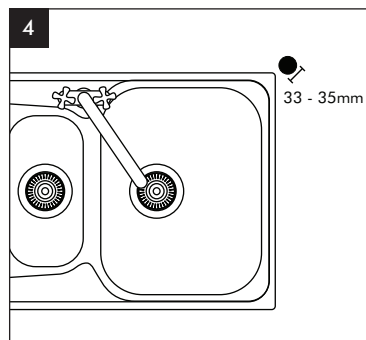
**2**

Position correctly with at least 150mm behind the unit, at least 25mm each side and 100mm above.

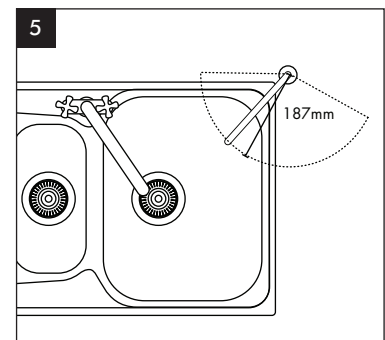
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When planning and providing for the connection to the services, always allow for easily accessible service isolator fittings and for the position of an external water filter.

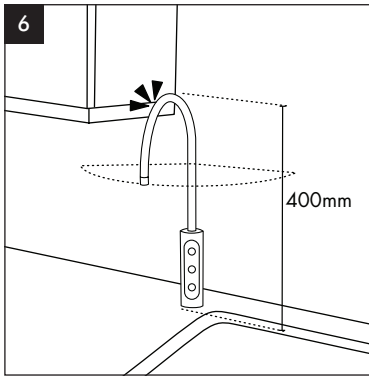


Identify a suitable position for the swan neck faucet. A 33-35mm (max) hole is required

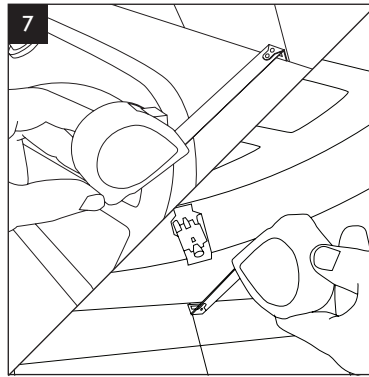


When positioning to drain over an existing sink bowl, allow for the reach of the swan neck or otherwise the position of any optional drip tray

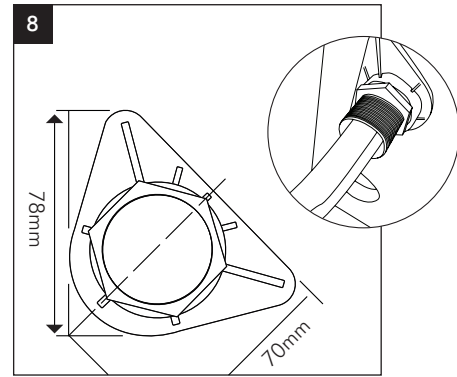




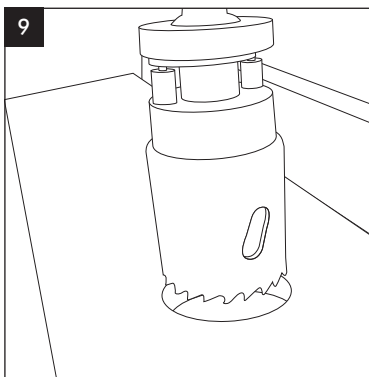
Also allow for the height of the swan neck under any overhanging cupboard/shelf.



Allow for the space needed for forming the required hole. Relate the selected position to the underneath of the counter and check for any obstructions.

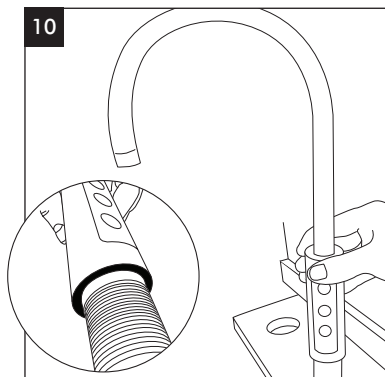


Allow sufficient space for fitting a back nut to the faucet stem

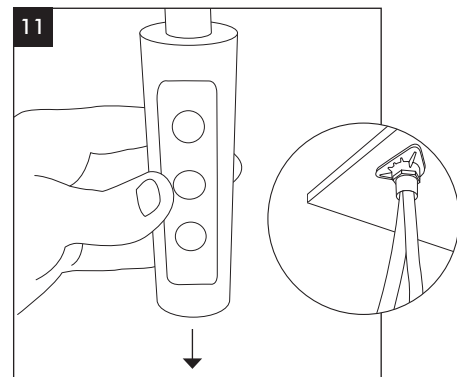


Carefully form the needed hole, using the correct type of cutter for the work surface material.

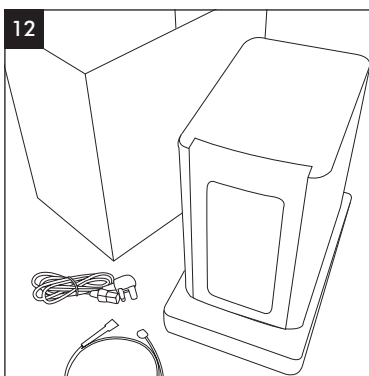
**Observe all local occupational health and safety requirements**



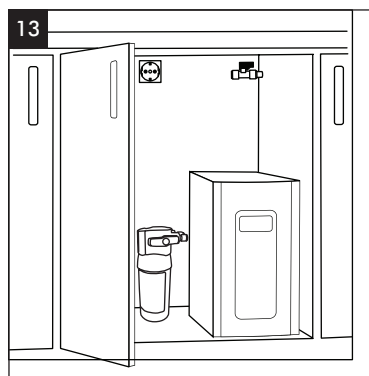
Remove the back nut and washer from the faucet and carefully feed the connecting pipe tail and ribbon cable through the hole formed in the work surface. Ensure the sealing O ring is pre-fitted in the base of the faucet. You may want to apply a thin bead of silicone sealant also



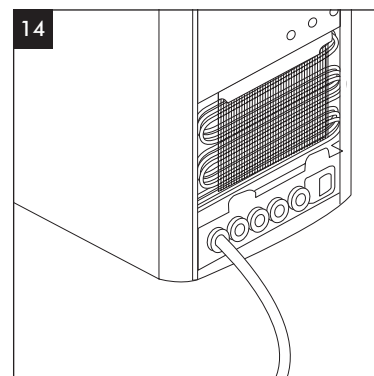
With the faucet control panel in the right position, carefully refit the back washer and nut. Take care not to over-tighten.



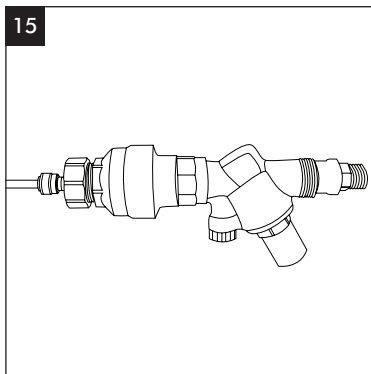
Check the main components are present as per the lists on pages 12 & 13.



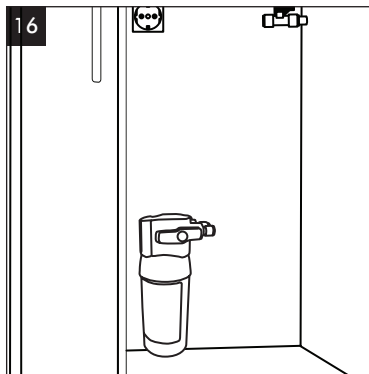
Position the unit in place, ensuring it is level and stable.



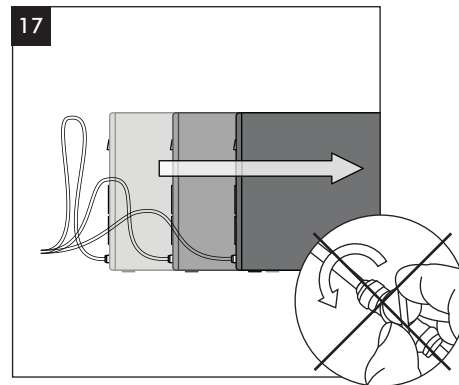
Connect to the water supply



The maximum recommended inlet pressure is 3.5bar. We recommend fitting a check valve, a pressure reducing valve and a 'Waterblock' device. (These are available as part of our optional Installation Kit). When fitting a Waterblock device we recommend a minimum setting of '2' be used.

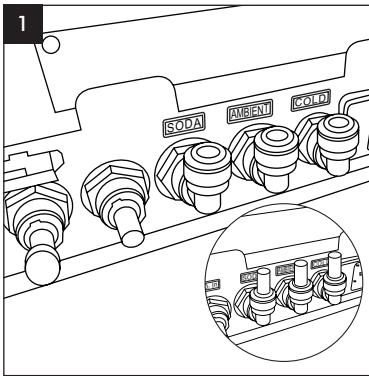


Pre-flush and fit the filter in an accessible position

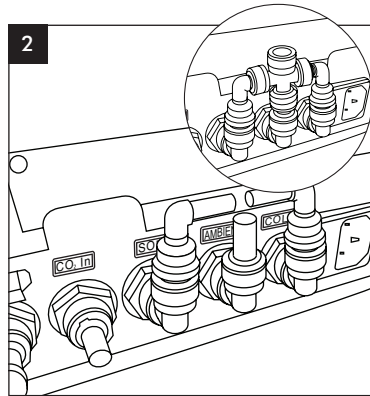


and always allow adequate connecting pipe length to enable the unit to be sufficiently moved for any future disconnection. Do not turn the water supply on at this stage.

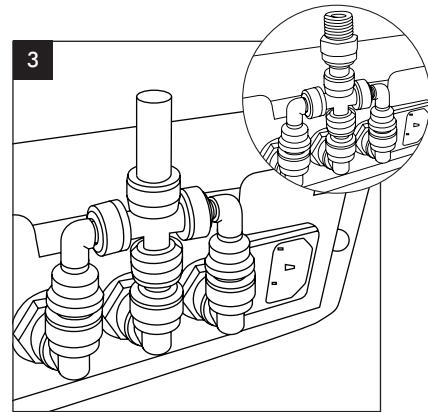
# Water Connection



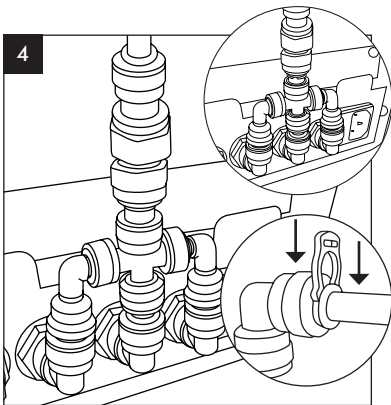
1 Connect faucet pipework as follows: Fit 3 x Stem Elbows directly to water outlets on back of unit. Then fit 30mm pieces of tubing to each Stem Elbow.



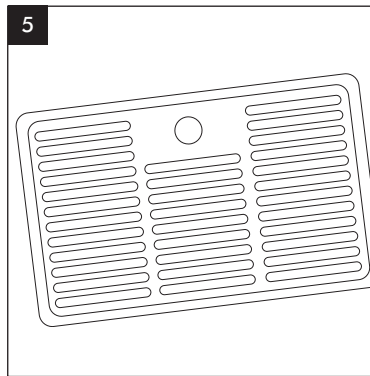
2 Fit 2 x Stem Elbows to the X Fitting and push down onto the 30mm pieces of tubing. Next fit another 30mm piece of tubing to the top of the X fitting.



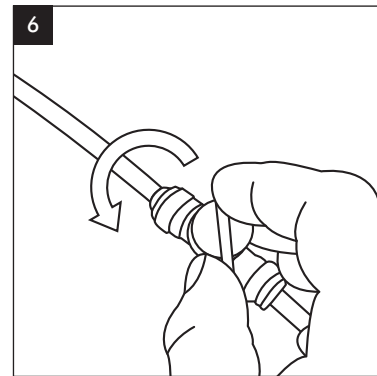
3 Fit the male threaded adaptor fitting and the female threaded adaptor fitting



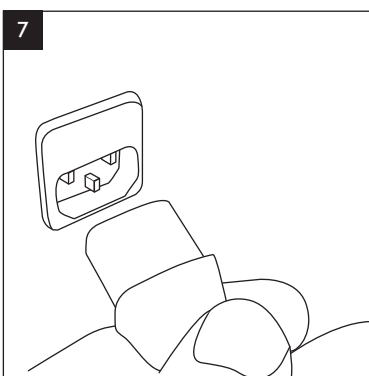
4 Connect to insulated faucet pipe.



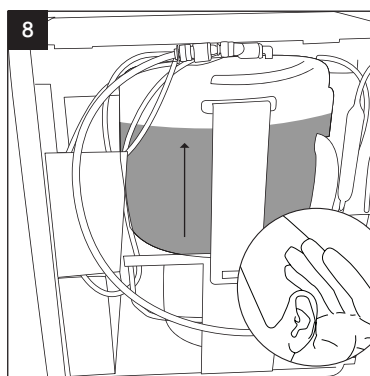
5 Fit optional Drip Tray at this stage (if selected)



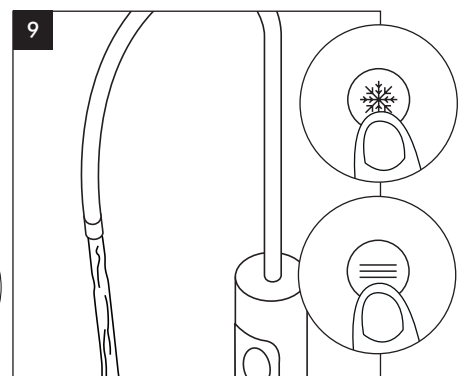
6 Turn on the water supply and check for any leaks.



7 Connect the IEC power cord-set to the electricity supply.



8 The Direct Chill system should now be heard to begin filling. This may continue for a few minutes depending upon water pressure. (NB: Any immediate whining noise from the DC pump should soon stop as the water level in the system rises).

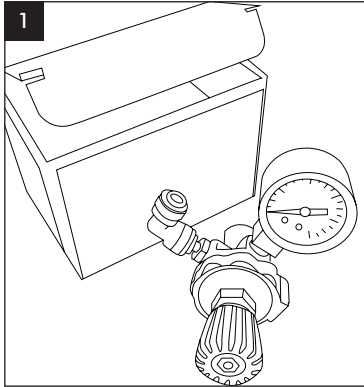


9 Upon the filling cycle completing, proceed to flush the cold and the ambient water channels using these buttons on the faucet control panel. We recommend that a minimum of 10lts is flushed through the unit. (Cold approx. 8 lts and Ambient approx. 2 lts).

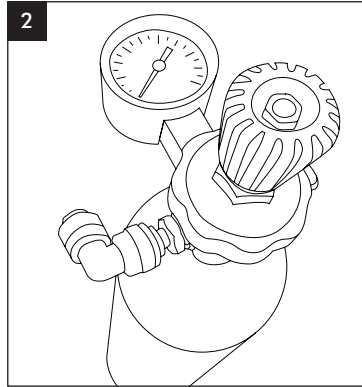
GB

**NB: The integrated leak prevention control will prevent any continuous dispense of >60 secs and could occur while carrying out this prolonged dispensing. When it occurs the dispense will stop and a beeping noise will sound. To reset momentarily release the button and press again.**

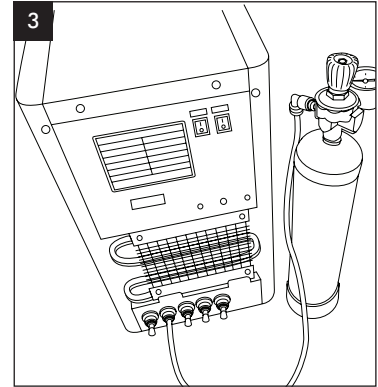
# CO<sub>2</sub> Bottle Installation & Sparkling Water Operation



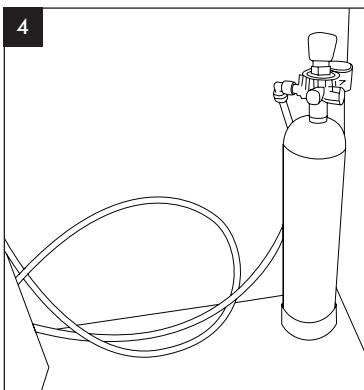
1  
Unpack CO2 Regulator and fit elbow fitting to spigot outlet.



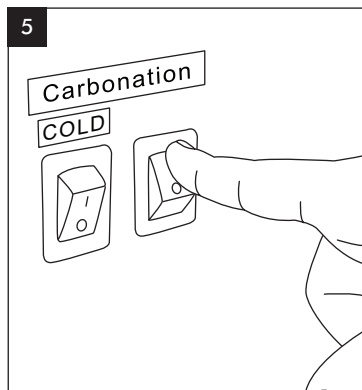
2  
Attach the regulator to the disposable CO2 bottle, ensuring the small pressure relief vent in the stem is facing away from you or anyone else. Ensure the regulator is closed. Hand tighten securely.



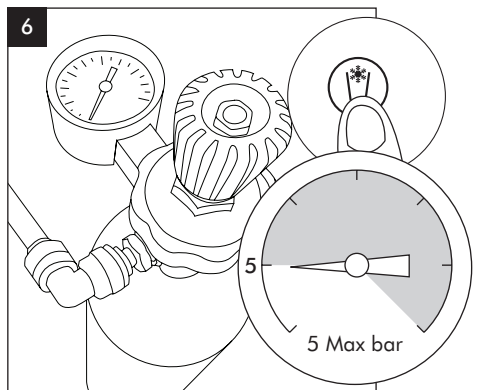
3  
Connect the assembled CO2 bottle and regulator to the CO2 inlet on the back panel using 1/4" pipe.



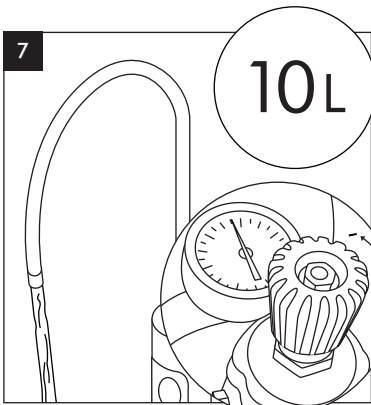
4  
Stand the cylinder in a suitable place.



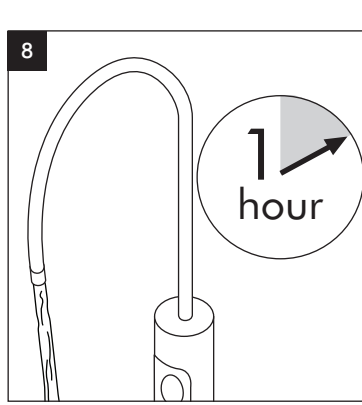
5  
Do not open the regulator valve until the carbonated switch has been turned on.



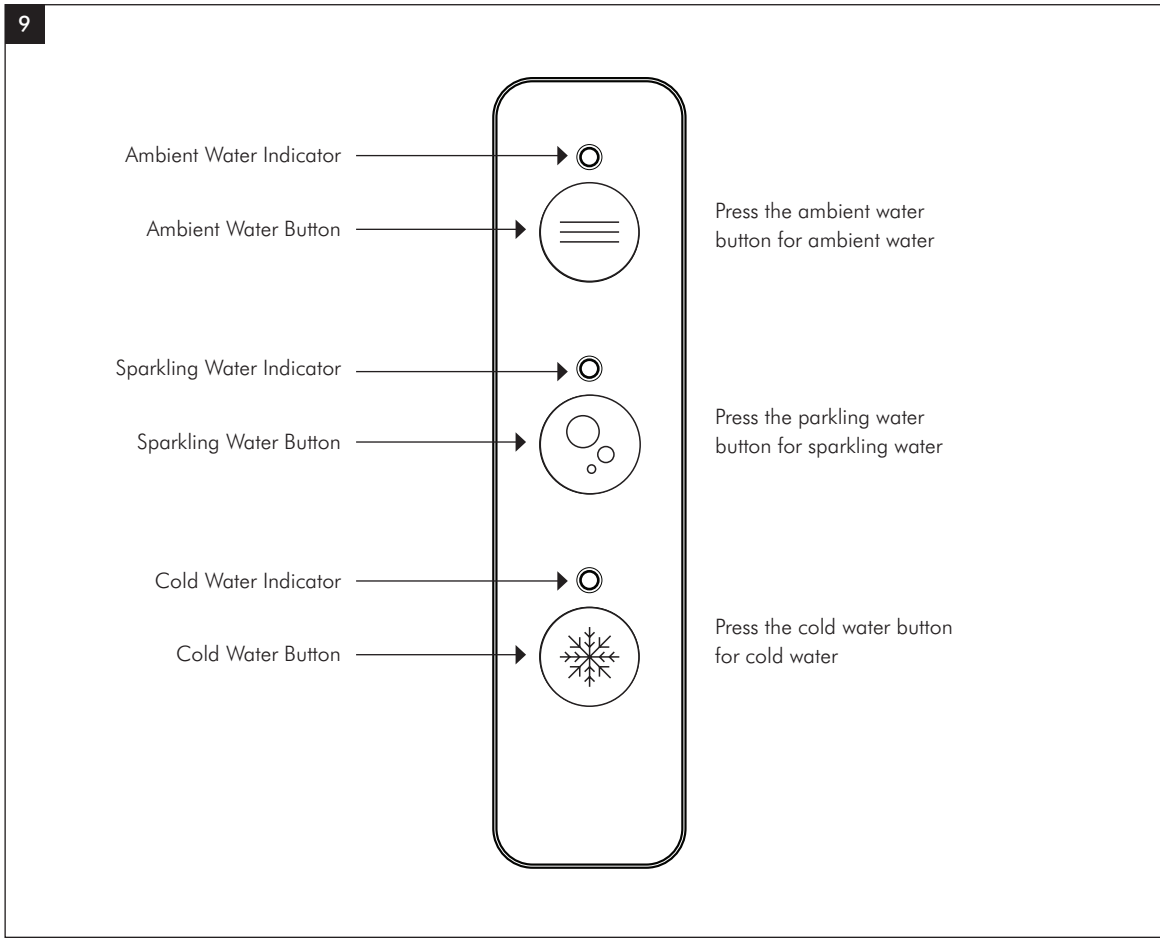
6  
After completing the water installation, turn on the soda power switch and the pump will run. Allow the carbonation tank to fill. (The carbonation pump will run for approx. 15-20 secs). We recommend between 3.5 - 5 bar (max). Do not exceed 5 bar pressure.



7  
Flush through approximately 10 litres of water using the sparkling button\*. Depending on the inlet water pressure, you may have to pause approx. every 500ml to allow the carbonation tank to refill. Check and adjust the CO2 pressure accordingly.

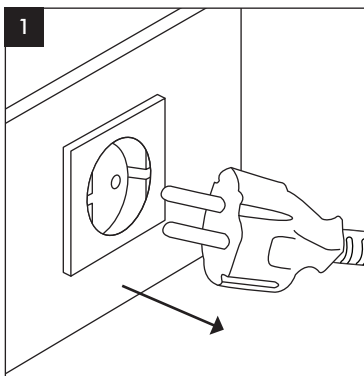


8  
It will be necessary to leave the machine for up to 1 hour for sparkling water to develop, by absorbing the CO2.

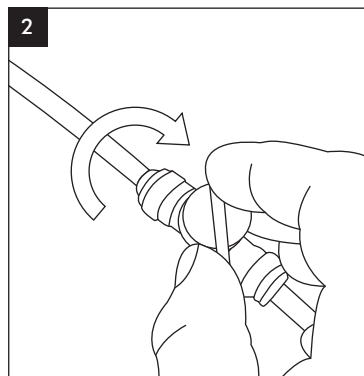


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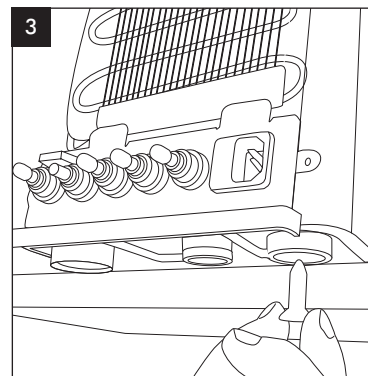
## Maintenance & Removal



1 Please make sure the machine is completely disconnected from electricity before carrying out any maintenance work.

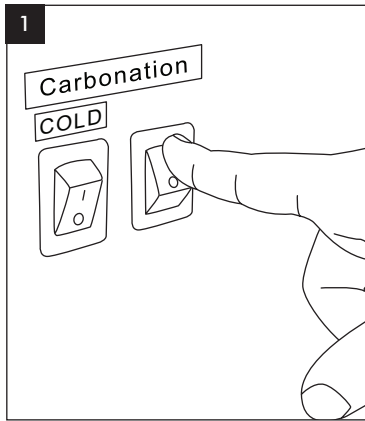


2 Turn off the water supply.

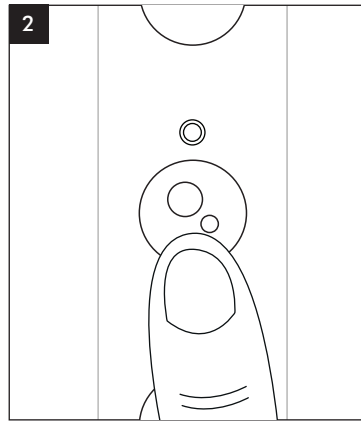


3 To drain the Direct Chill tank, remove the cap on the back of the machine. We recommend it is refitted immediately upon draining being completed.

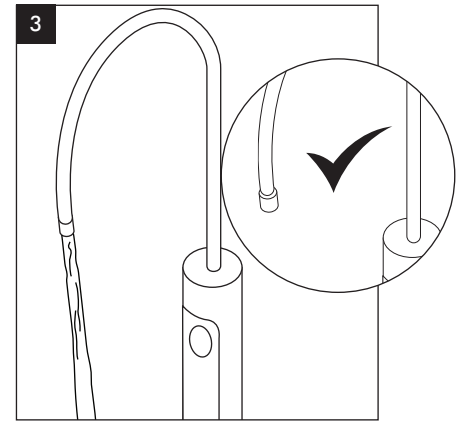
# Emptying the Carbonation Tank



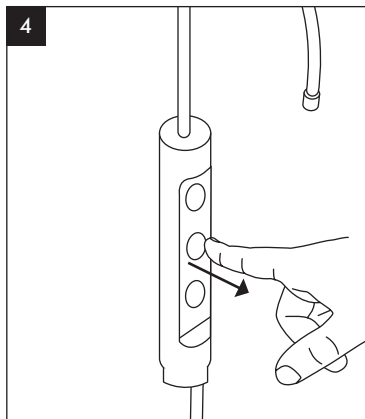
1 Switch off the Carbonation System switch on the back of the unit



2 Press and hold the Sparkling water dispense button until all the water is expelled and only CO2 gas is being released.

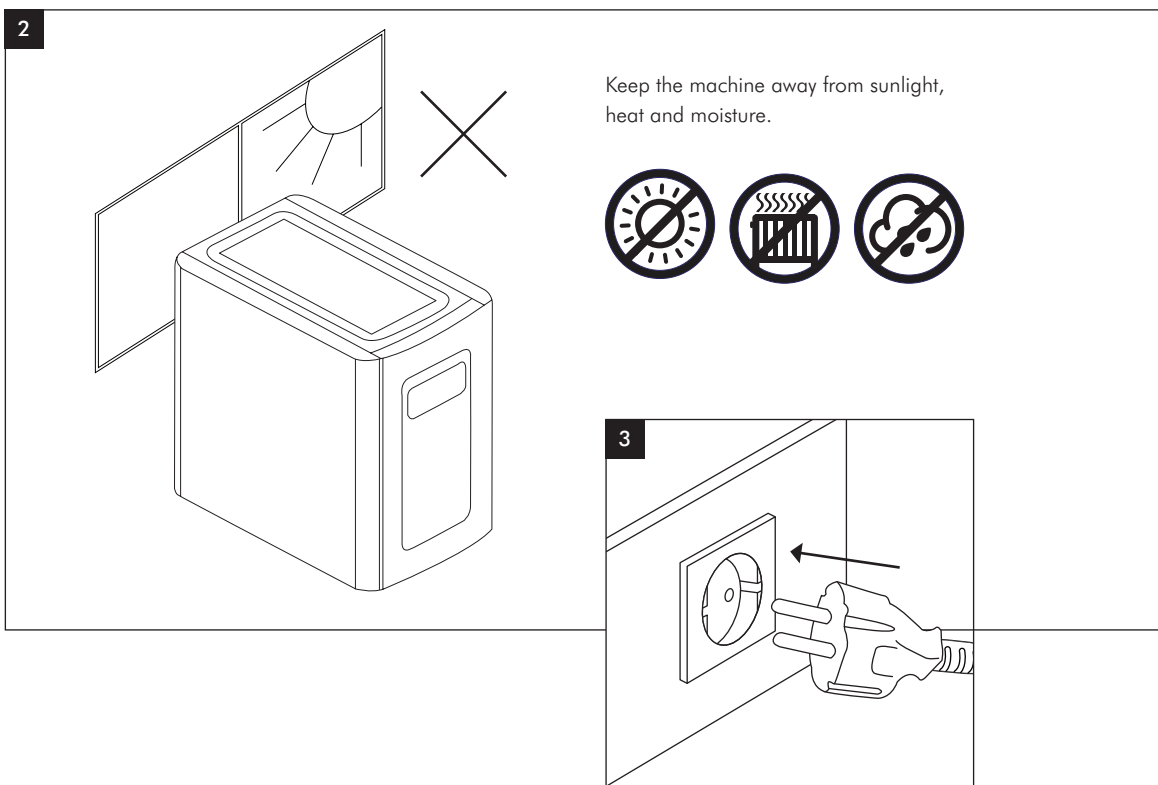
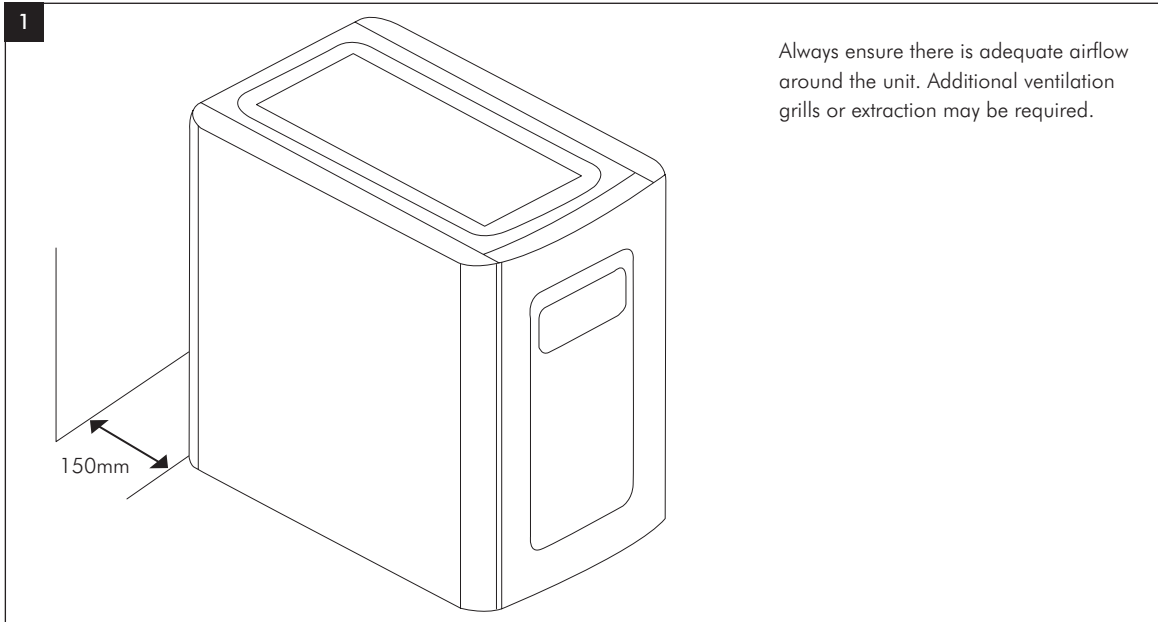


3 The tank is empty of sparkling water upon CO2 only being released.



4 Ensure to release the Sparkling water button and take care to avoid releasing excess amounts of CO2 gas only

# General Safety Advice



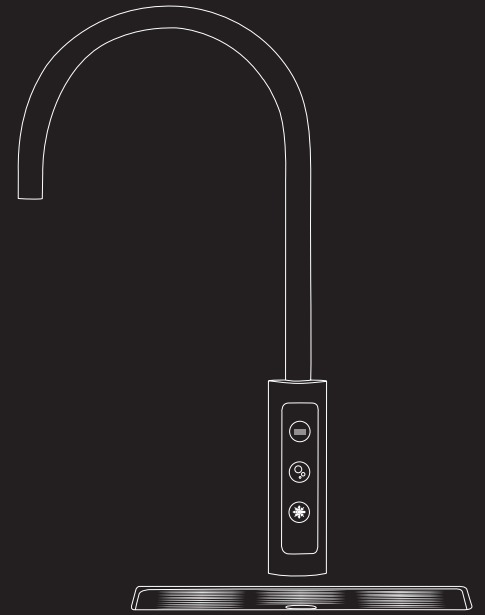
Be sure to use single outlet socket with correct power voltage. Plug the power cord directly into the electrical socket.





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## u1 Undercounter Systems All Models



# Sanitisation Guides

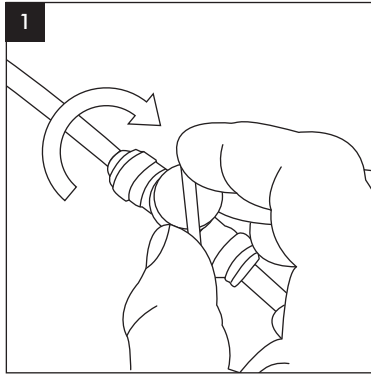
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### Contents

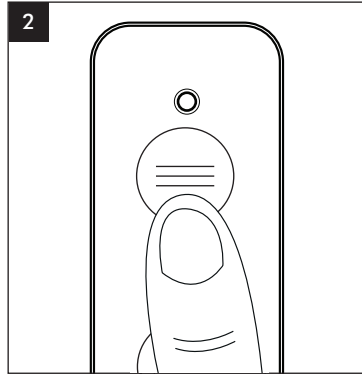
34 u1 Sanitisation guide

# u1 Sanitisation guide

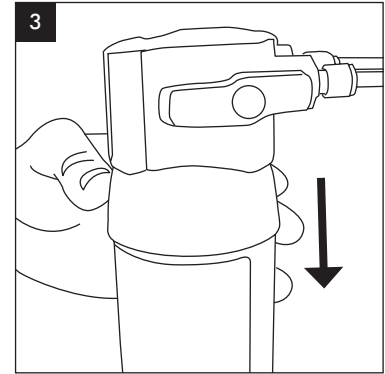
Minimal routine maintenance is required. Every 6 months maximum a sanitisation procedure is recommended as follows



1 Turn off incoming mains water.



2 Briefly press cold/ambient dispense button to release internal water pressure from the machine



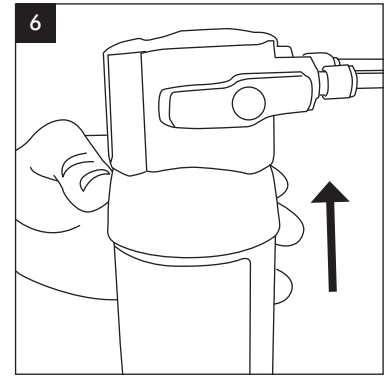
3 Remove the existing filter



4 Use Bioguard Hand Gel and put on protective gloves.







5 Add 25 ml of Bioguard Internal Sanitisation fluid to a clean and empty service Brita filter cartridge

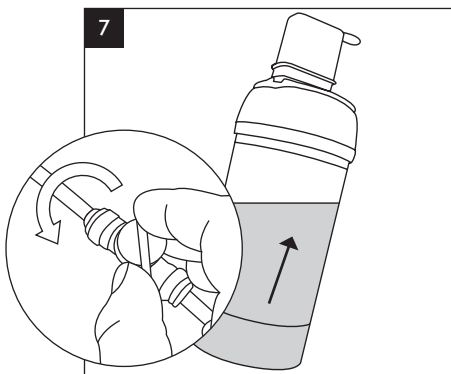


6 Connect to filter head.

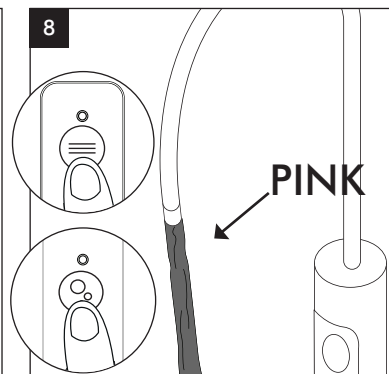
GB

 <p>Please note that this sanitisation fluid contains an active caustic/alkaline agent.</p> <p>Always use responsibly and with care remembering that due to its alkaline nature unnecessary concentrated/prolonged contact with any materials, including metals, can cause damage. Always rinse all contact surfaces after use with clean water.</p> 	 <p>Avoid skin contact and wear protective gloves when handling sanitisation fluids</p>  <p>In the event of any skin contact, flush immediately with clean, cold water</p>
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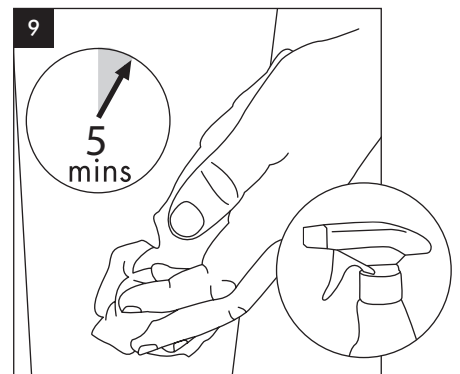
Refer to the relevant MSDS document for further information



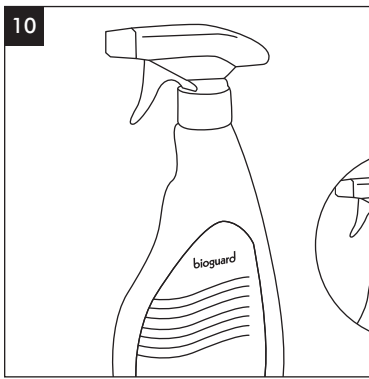
7 Turn on incoming water, allow service cartridge/doser to fill.



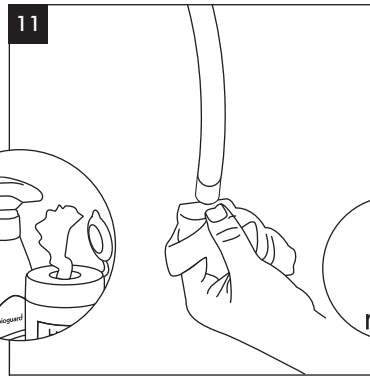
8 Dispense water using the cold button until the water appears pink. Briefly press the ambient button too.



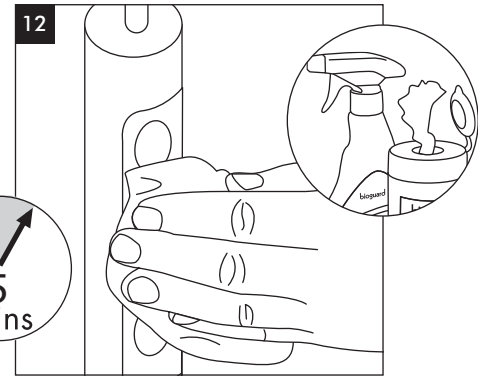
9 Leave the solution inside machine for sanitisation to take effect (minimum 5 minutes) while thoroughly cleaning the machine externally



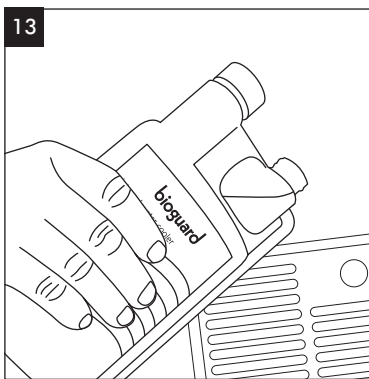
For this we recommend the use of Bioguard Foam Descaler & Sanitiser Spray.



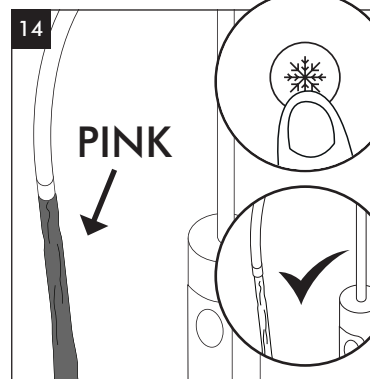
Pay particular attention to the dispense faucet and the push button controls. For this use Bioguard External Sanitiser & Clear Spray and Sanitising Wipes.



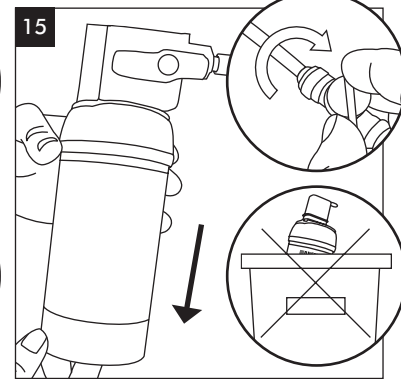
Attend to any cosmetic marks with Bioguard Rejuvenator & Protector as needed.



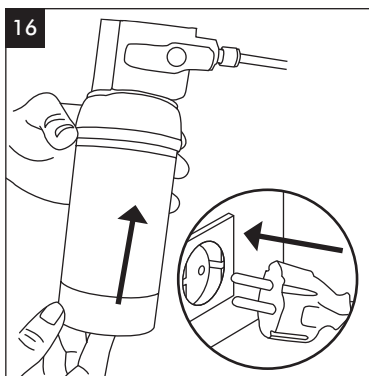
Remember to include the drip tray. If a Waste Overflow System is fitted, empty this and flush through with a small amount of sanitisation fluid if needed.



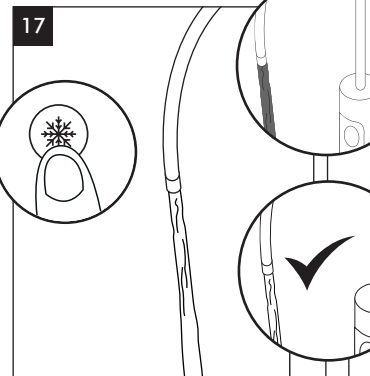
When the external cleaning (minimum 5 minutes) is completed, flush the machine using the cold button with clean water until the dispense water runs clear. Repeat briefly with the ambient button.



Turn off water and remove the service filter. Retain service filter for reuse.



Fit new filter. Turn on incoming water supply and reconnect the power.



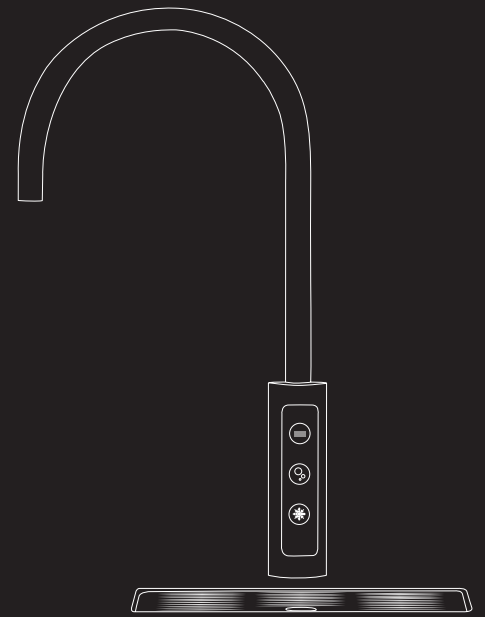
Pre-flush the new filter to waste using the ambient button until the water appears clear and is free of air. Flush through a small amount of water to check all functions.

**ALWAYS ENSURE ANY RESIDUAL AIR HAS BEEN PURGED FROM ALL DISPENSE CHANNELS AND THAT ALL IS OPERATIONAL BEFORE LEAVING.**



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## u1 Undercounter Systems All Models



# Trouble Shooting

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- 38 Fault Diagnosis Guide 1 & 2 – No Water Dispenses
- 40 Fault Diagnosis Guide 3 – Water Dispenses but not correct Temperature
- 41 Fault Diagnosis Guide 4 – Water Leaks
- 42 Fault Diagnosis Guide 5 & 6 – Miscellaneous

# Trouble Shooting

## Fault Diagnosis Guide 1 – No Water Dispenses

Problem/ Report	Possible Cause	Suggested Action	
<b>No Water Dispenses</b>			
From Ambient or Cold Valve	Button not being pressed enough	Press button firmly.	
	Faulty controls PCB	Replace Control PCB – Check for 24 VDC outputs if necessary.	
	“Waterblock” tripped off	Reset “Waterblock” (and check for cause of leakage)	
	Faulty dispense control panel membrane switch	Check and replace if required	
	Faulty Solenoid Valve		Valve clicking but no water - Check if hole in centre of washer is clear.
			Check valve action. Carefully dismantle valve and clean out/ part replace/complete replace as needed.
			If there is output, replace solenoid coil/whole valve coil/ whole valve assembly complete.
Leak detector has disabled dispense operation.	Check for internal leakage, ensure probes are dry and reset.		
From Cold Valve	Firstly all as for Ambient Tap	Carry out checks and actions as for ambient tap.	
	Chiller tank frozen – Faulty Thermostat/Incorrect Setting	Thaw out and check thermostat. Replace thermostat or reset temperature set point.	
	Chiller tank Frozen-faulty tank pump	Thaw out and check operation. Replace Air pump if necessary.	

# Trouble Shooting

## Fault Diagnosis Guide 2 – No Water Dispenses (continued)

Problem/ Report	Possible Cause	Suggested Action
<b>No Water Dispenses (continued)</b>		
From Ambient or Cold Valve	Button not being pressed enough	Press button firmly.
	Faulty controls PCB	Replace Control PCB – Check for 24 VDC outputs if necessary.
From Cold Valve	Firstly as for Ambient and or Cold Dispense	Carry out the checks and actions as for Ambient Dispense
	Low or no CO <sub>2</sub> .	Check and replace cylinder as necessary
	Pump not operating	Check carbonator level Control System.
		Check probes connected/leads attached. Check power supply to pump.
	Carbonator Tank over pressurised with CO <sub>2</sub>	Switch Sparkling System off, shut off CO <sub>2</sub> supply and release CO <sub>2</sub> from carbonator. Switch Sparkling system on, then check pump operation. If normal, open CO <sub>2</sub> supply after pump has stopped.
	Pump Feed Solenoid Valve	Check valve function: <ul style="list-style-type: none"> <li>• If no input DC voltage, check rectifier and level control module.</li> <li>• If input but no function, check valve coil. Replace parts as needed.</li> </ul>
Carbonation System switched off.	Switch on (Switch on back of the machine)	

# Trouble Shooting

## Fault Diagnosis Guide 3 – Water Dispenses but not correct Temperature

Problem/ Report	Possible Cause	Suggested Action
<b>Water Dispenses but not correct Temperature</b>		
Ambient Water too warm	Low usage and / or fed from water supply pipe in warm ducting.	Advise user replacing external causes and solutions.
Cold water not Cold	Cooling switched off.	Check switch positions as necessary.
	Compressor runs and switching off (cool/warm to touch) - Thermostat set too high.	Decrease Cold Thermostat set point.
	Faulty Thermostat.	Replace Thermostat
	Compressor runs but not Switching off (Hot to touch).	Contact Aftersales Support.
	Refrigeration problem.	Contact Aftersales Support.
	Compressor not running at all.	Check voltage path through the machine.
	No electricity power supply.	Check power cord connected and live, and machine is switched on.
	Compressor only hums slightly/ briefly.	Check and replace relays.
	Relays loose.	Check and refit relays.
	Compressor Faulty.	Contact Aftersales Support.
DC Tank Empty	Check water level and replace level control module in fill valve as needed.	



# Trouble Shooting

## Fault Diagnosis Guide 4 – Water Leaks

Problem/ Report	Possible Cause	Suggested Action
<b>Water Leaks</b>		
Water lying on top edge of lower door panel and / or bottom of Cabinet.	Overflowing Waste Container.	Empty Waste Container and check drainpipe is not blocked.
Water lying in bottom of machine	Faulty Water System Level Sensors.	Check operation and replace batteries if needed.
	Leak in supply inlet pipe-work and / or filter.	Locate and repair accordingly.
	Leak from machine water pipe work fittings.	Locate and repair accordingly.
		Check pressure and fit pressure reducing valve if needed.
DC tank over overfilling	Check level control module and fill valve function.	

# Trouble Shooting

## Fault Diagnosis Guide 5 – Miscellaneous

Problem/ Report	Possible Cause	Suggested Action
<b>Miscellaneous</b>		
Bleeping Noise	Waste Container full/Internal water leak.(If fitted)	Empty Waste Container. Check and reset Leak Detector.
No LED Control Lights	No electricity to Machine.	Check power supply and reconnect as necessary (Also check out other symptoms as described separately).
	Check Fuse in IEC Socket.	Replace if necessary.
	Faulty Control PCB (Machine working normally otherwise).	Replace Control PCB.
Machine shakes on Start-Up	Compressor Starting.	No action needed. This is quite normal.
	Level Surface.	
	Uneven Surface.	Level up machine using adjustable feet.
	Missing Fixings.	Replace missing fixings.
Tripping out Electricity supply	Machine in high humidity environment.	Discuss possible repositioning with customer.
	Electrical circuitry faults.	Test, identify and address accordingly. See Electrical Diagrams.
		Contact Aftersales support for further advice.

# Trouble Shooting

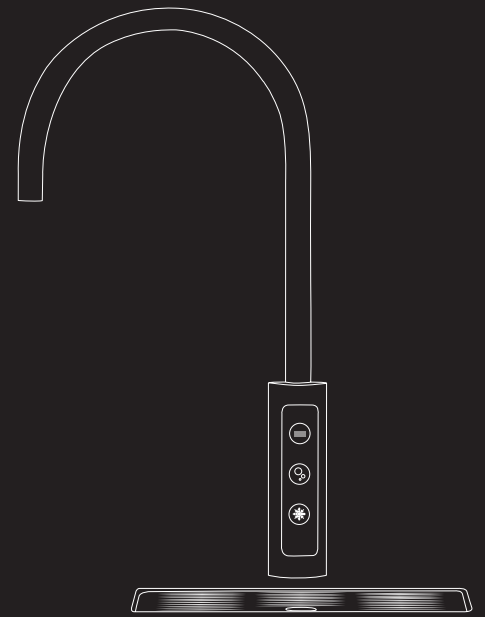
## Fault Diagnosis Guide 6 – Miscellaneous

Problem/ Report	Possible Cause	Suggested Action
<b>Slow but Continuous Water Dispense</b>		
From Ambient or Cold Water Valve	Low incoming Water pressure.	Consider re-plumbing to alternative supply if possible or boosting the inlet supply pressure.
From Sparkling Water Valve	Low/no CO2 Pressure.	Check Regulator and/or replace cylinder.
<b>Intermittent Water Dispense</b>		
From Ambient or Cold Water Valve	Trapped air in pipe work (especially where water pressure is low or after filter change).	Hold button on to purge air out. (This could take several minutes where pressure is low).
	Button Not being pressed enough.	Press button firmly N.B. This could be caused by a surrounding cold environment making the action stiffer.
	Faulty Control PCB	Replace Control PCB.
From Ambient or Cold Water Valve and hammering noise	Fluctuating mains water pressure situation.	Contact Technical Support regarding special replacement washers available.
<b>Continuous Water Dispense</b>		
From Ambient/ Cold or Sparkling Water Valve.	Button jammed on/faulty.	Replace Control PCB and or/ button Panel as needed.
	Debris blocking hole in diaphragm washer.	Dismantle Valve and clean out.
	Faulty solenoid valve.	Check valve and replace if needed.



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## u1 Undercounter Systems All Models



## Electrical Measurements, Component Diagrams & Lists

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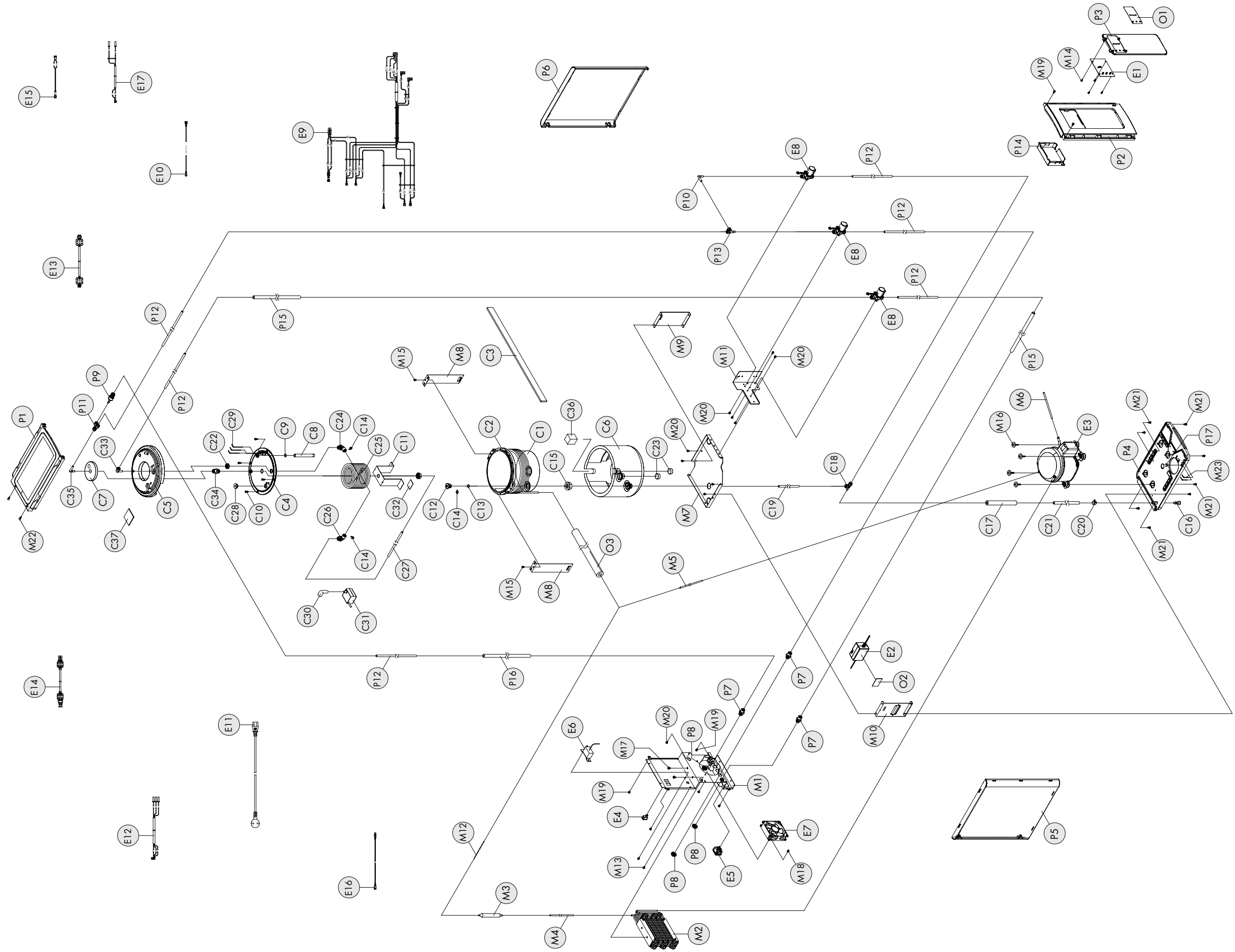
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# Electrical Test Measurement Values Guide

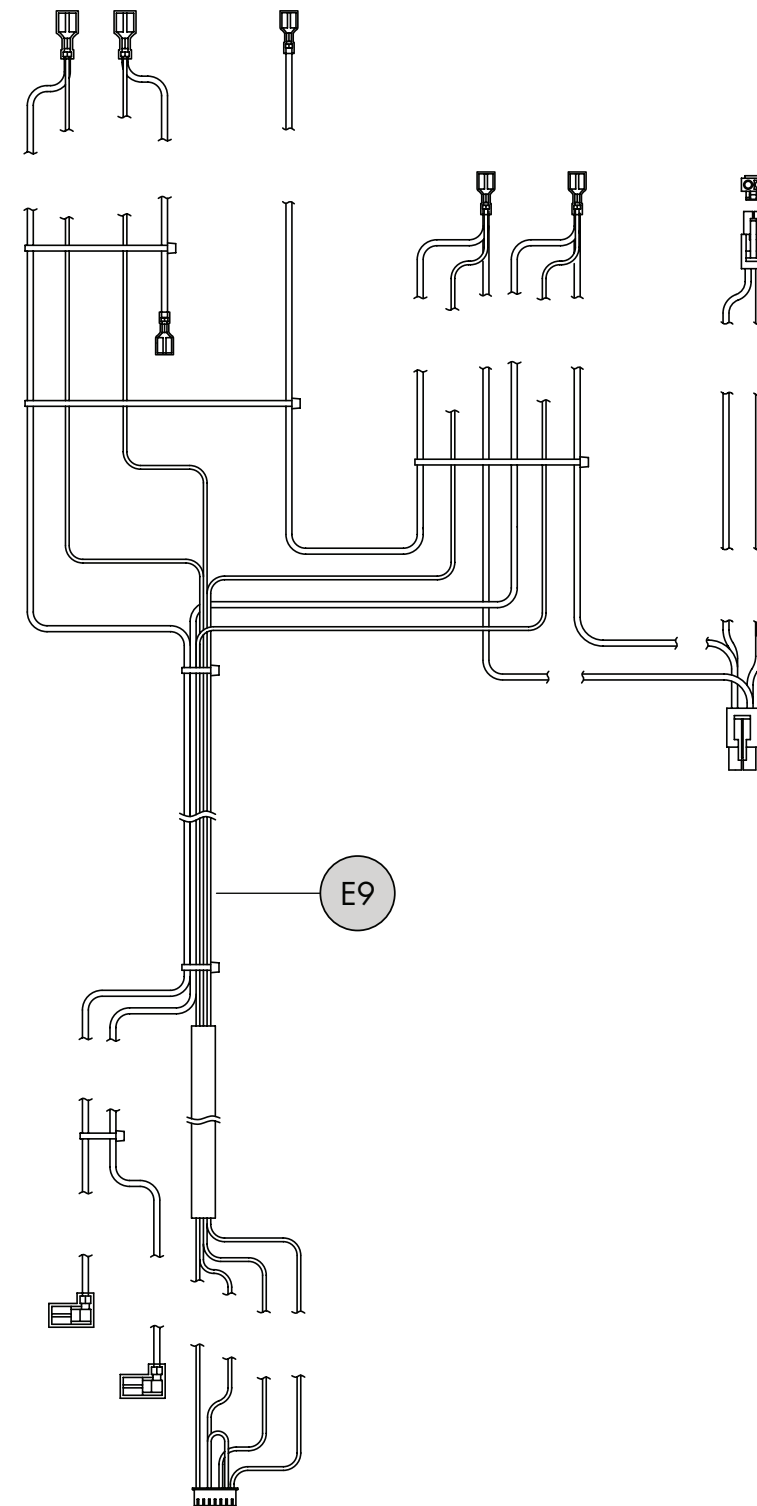
			BK Series
Compressor Resistance	Primary		13Ω
	Secondary		44Ω
	Total		57Ω
Compressor Input Voltage	230V		230V
Compressor Relay Resistance	PTC	3 – 6	N/A
		3 – 5	N/A
		5 – 6	23.8Ω
Compressor Relay Resistance		Klickson	1.6Ω
Solenoid Coil Resistance	Cold Dispense	(≥0906)	84Ω
	Ambient Dispense	(≥0906)	84Ω
	Sparkling Dispense	(≥0906)	84Ω
	Tank Fill	(≥0906)	84Ω
	Pump Feed	(≥0906)	84Ω
	Cold Dispense	(All)	N/A
	Hot Dispense	(All)	84Ω
Solenoid Valve Input Voltage			24VDC
Cooling Current/Power	Normal	At 230V	N/A
	Reduced	At 230V	N/A
	Ineffective	At 230V	N/A
Heater Resistance	Main Element	(400W/1.74A)	N/A
		(535W/2.33A)	N/A
		(825W/3.58A)	N/A
	Standby Element	(35W/0.15A)	N/A
		(50W/0.22A)	N/A
Heater Band Input Voltage			230V

# Exploded Component Diagram u1 Chilled & Ambient



# Electrical Wiring Loom Diagram u1 Chilled & Ambient

Exploded Component Diagram u1 Chilled & Ambient





# u1 Chilled & Ambient – Parts List

Stock Reference Number	Component Description	Exploded Component Diagram Reference Number
602311	Top Panel	P1
602011	Front Panel	P2
602012	Front Panel Infill	P3
602451	Base Panel	P4
602125	Left Side Panel	P5
602126	Right Side Panel	P6
131641	Bulkhead Fitting	P7
**	M16 Hexagon Nut	P8
194121	Grit Filter	P9
131661	Spigot Elbow Fitting	P10
131648	Y Type Fitting	P11
462003	1/4" Water Pipe, white, per metre	P12
131655	1/4" T Fitting with spigot branch	P13
**	Control Board Cover	P14
**	PVC Sleeving	P15
**	PVC Sleeving	P16
**	10mm Bung	P17
**	Rear Cover	M1
**	Condenser	M2
**	Drier	M3
**	Copper Tube	M4
**	Copper Tube	M5
**	Copper Tube	M6
**	Mid Shelf	M7
**	Cold Tank Bracket	M8
**	RH Lower Side Bracket	M9
**	LH Lower Side Bracket	M10
**	Solenoid Mounting Bracket	M11
**	Capillary Tube	M12
**	M4x6 RHD Screw (200)	M13
**	M3x8 PHD Screw (200)	M14
**	M4x8 St/St PHD Screw (200)	M15
**	M4x20 FHD Screw (200)	M16
**	M4x7 FHD Screw (200)	M17

# u1 Chilled & Ambient – Parts List (Continued)

Stock Reference Number	Component Description	Exploded Component Diagram Reference Number
**	M4x8 RHD Screw (200)	M18
**	M4x12 PHD Screw (200)	M19
**	M4x8 PHD Screw (200)	M20
**	M4x12 St/St PHD Screw (200)	M21
**	M4x10 PHD Screw (200)	M22
173274	Leak Detector Probe	M23
171238	Main Control Board	E1
**	Transformer 230V/24VDC	E2
**	Compressor	E3
174231	On/Off Switch	E4
172163	IEC Fused Socket	E5
173267	Cold Thermostat	E6
174352	Fan	E7
173241	Solenoid Valve	E8
172173	Main Wiring Harness	E9
**	Earth Wire Harness	E10
172152	IEC Power Cordset - UK	E11
172148	IEC Power Cordset - Shucko/EURO	E11
852108	IEC Power Cordset - Swiss	E11
172144	IEC Power Cordset - Danish	E11
**	Level Control Wiring Harness	E12
**	Faucet Wiring Harness	E13
172179	Swan Neck Faucet Connection Harness	E14
**	Adapter Cable	E15
**	Fan Wiring Harness	E16
**	Level Sensor Harness	E17
**	Cold Tank - Complete	C1
**	Cold tank Fastening Ring	C2
**	Thermal Insulation	C3
**	Cold Tank Lid	C4
**	Cold Tank Top EPS	C5
**	Cold Tank EPS	C6
**	Thermal Insulation	C7
**	Thermostat Sleeve	C8

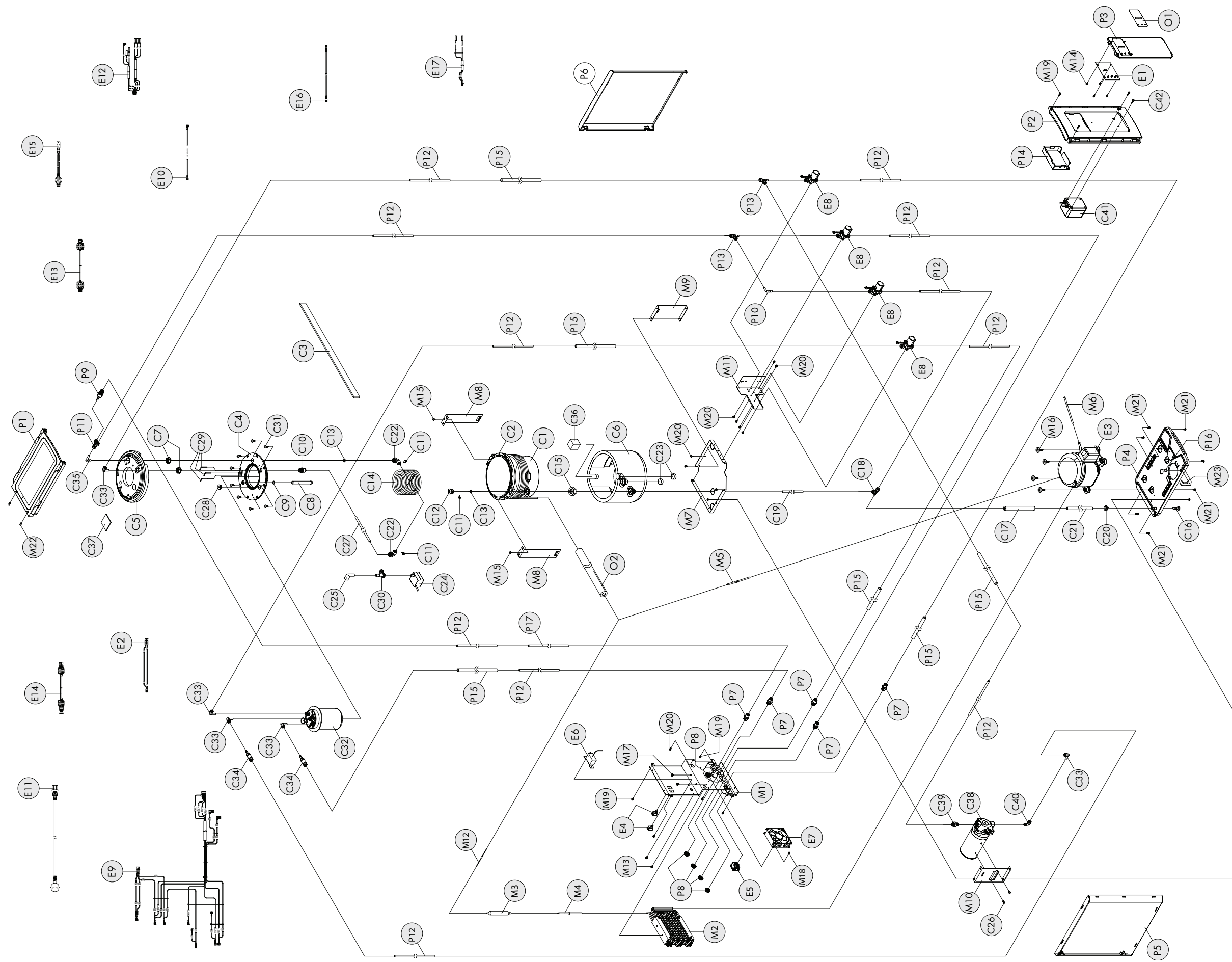
## u1 Chilled & Ambient – Parts List (Continued)

Stock Reference Number	Component Description	Exploded Component Diagram Reference Number
**	O-Ring	C9
**	M4x12 St/St PHD Screw (200)	C10
**	Direct Chill Stand	C11
**	Cold Tank Inlet Fitting	C12
**	Cold Tank Inlet Fitting O-Ring	C13
462739	1/4" Locking Clip	C14
**	Backnut	C15
151544	Drain Bung	C16
**	Insulated Sleeve	C17
131655	1/4" T fitting with spigot branch	C18
462003	1/4" Water Pipe, white, per metre	C19
**	Hose Spring Clamp	C20
**	Silicone Drain Pipe	C21
**	Angled Bulkhead Fitting Back Nut	C22
**	Foam Rubber Insert	C23
131642	1/4" PF Inlet Elbow	C24
**	DC Coil	C25
131647	1/4 PF Elbow	C26
**	1/4" DC Coil Nylon Connection Tube	C27
**	Cold Tank Lid Bung	C28
**	Level Sensor Probe	C29
**	Angled Circulation Pump Tube	C30
175363	DC Circulation Pump Set	C31
**	Double Sided Fixing Pad	C32
131643	1/4" Stem Elbow	C33
131641	Straight Bulkhead Fitting	C34
131661	1/4" Spigot Elbow Fitting	C35
**	EPS Filler Block	C36
**	EVA Foam ( Soft )	C37

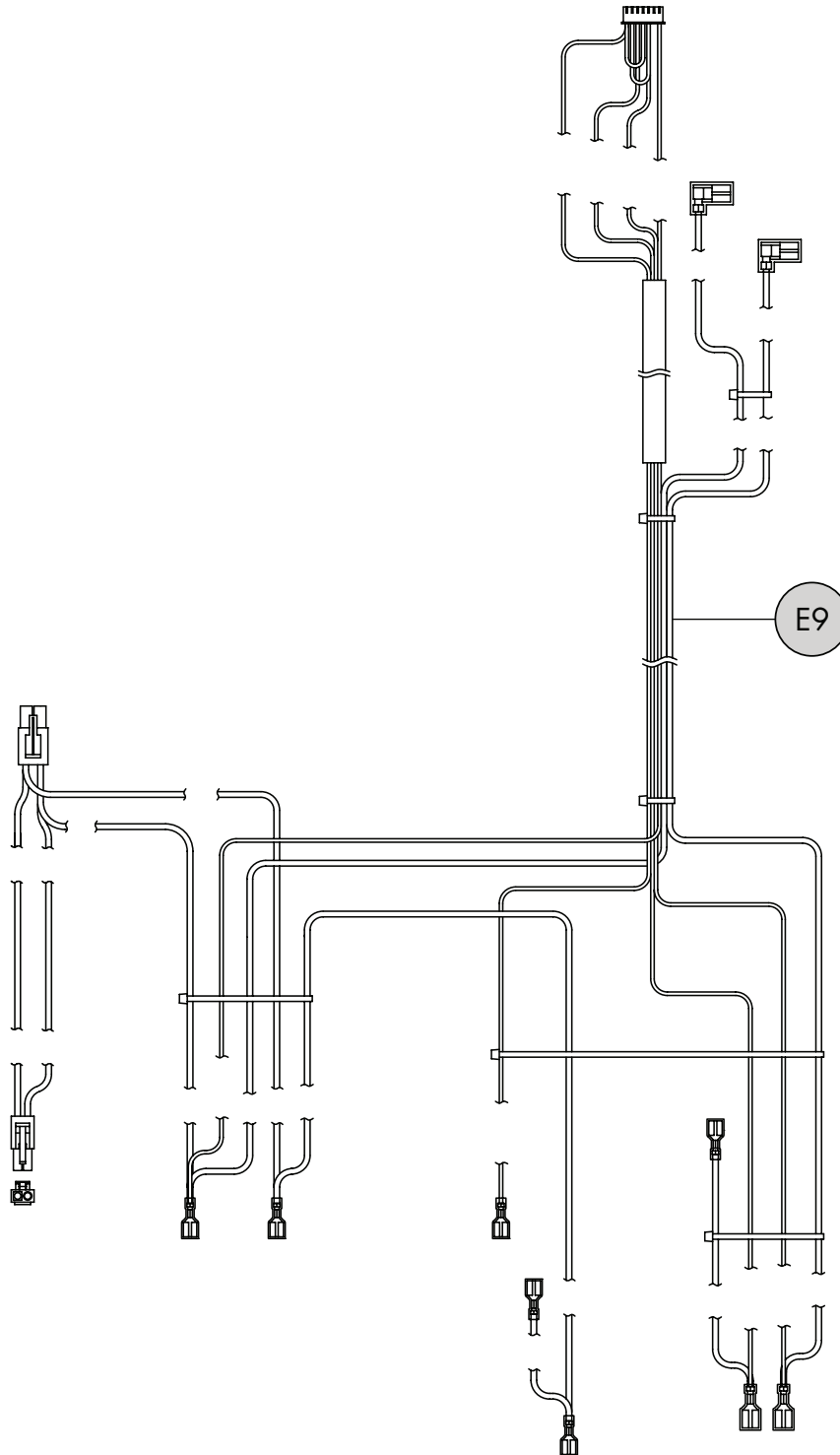
\*\* Non stock item – available on special order. Please contact After-Sales Support with model number and Exploded Component Diagram reference number.

Exploded Component  
Diagram u1 Chilled & Ambient 

# Exploded Component Diagram u1 Chilled, Ambient & Sparkling



# Electrical Wiring Looms Diagram u1 Chilled, Ambient & Sparkling



# u1 Chilled, Ambient & Sparkling – Parts Lists

Stock Reference Number	Component Description	Exploded Component Diagram Reference Number
602311	Top Panel	P1
602011	Front Panel	P2
602012	Front Panel Infill	P3
602451	Base Panel	P4
602125	Left Side Panel	P5
602126	Right Side Panel	P6
131641	Bulkhead Fitting	P7
**	M16 Hexagon Nut	P8
194121	Grit Filter	P9
131661	Spigot Elbow Fitting	P10
131648	Y Type Fitting	P11
462003	1/4" Water Pipe, white, per metre	P12
131653	1/4" T Fitting with spigot branch	P13
**	Control Board Cover	P14
**	PVC Sleeving	P15
**	10mm Bung	P16
**	PVC Sleeving	P17
**	Rear Cover	M1
**	Condenser	M2
**	Drier	M3
**	Copper Tube	M4
**	Copper Tube	M5
**	Copper Tube	M6
**	Mid Shelf	M7
**	Cold Tank Bracket	M8
**	RH Lower Side Bracket	M9
**	LH Lower Side Bracket	M10
**	Solenoid Mounting Bracket	M11
**	Capillary Tube	M12
**	M4x6 RHD Screw (200)	M13
**	M3x8 PHD Screw (200)	M14
**	M4x8 St/St PHD Screw (200)	M15
**	M4x20 FHD Screw (200)	M16
**	M4x7 FHD Screw (200)	M17

# u1 Chilled, Ambient & Sparkling – Parts Lists (Continued)

Stock Reference Number	Component Description	Exploded Component Diagram Reference Number
**	M4x8 RHD Screw (200)	M18
**	M4x12 PHD Screw (200)	M19
**	M4x8 PHD Screw (200)	M20
**	M4x12 St/St PHD Screw (200)	M21
**	M4x10 PHD Screw (200)	M22
173274	Leak Detector Probe	M23
171237	Main Control Board	E1
**	Carbonation Wiring Harness	E2
**	Compressor	E3
174231	On/Off Switch	E4
172163	IEC Fused Socket	E5
173267	Cold Thermostat	E6
174352	Fan	E7
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172148	IEC Power Cordset - Shucko/EURO	E11
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172144	IEC Power Cordset - Danish	E11
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**	Faucet Wiring Harness	E13
172179	Swan Neck Faucet Connection Harness	E14
**	Adapter Cable	E15
**	Fan Wiring Harness	E16
**	Level Sensor Harness	E17
**	Cold Tank - Complete	C1
**	Cold tank Fastening Ring	C2
**	Thermal Insulation	C3
**	Cold Tank Lid	C4
**	Cold Tank Top EPS	C5
**	Cold Tank EPS	C6
**	Backnut	C7
**	Thermostat Sleeve	C8

# u1 Chilled, Ambient & Sparkling – Parts Lists (Continued)

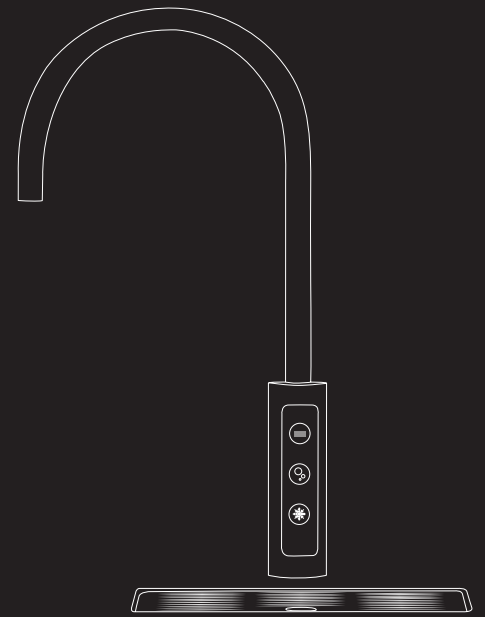
Stock Reference Number	Component Description	Exploded Component Diagram Reference Number
**	O-Ring	C9
131641	Straight Bulkhead Fitting	C10
462739	1/4" Pipe Clip	C11
**	Cold Tank Inlet Fitting	C12
**	Cold Tank Inlet Fitting O-Ring	C13
**	DC Coil	C14
**	Backnut	C15
151544	Drain Bung	C16
**	Insulated Sleeve	C17
131655	1/4" T Fitting with Spigot Branch	C18
462003	1/4" Water Pipe, white, per metre	C19
**	Hose Spring Clamp	C20
**	Silicone Drain Pipe	C21
131642	1/4" PF Inlet Elbow	C22
**	Foam Rubber Insert	C23
175363	DC Tank Circulation Pump Set	C24
**	Angled Circulation Pump Tube	C25
**	M5x12 RHD Screw (200)	C26
**	1/4" DC Coil Nylon Connection Tube	C27
**	Cold Tank Lid Bung	C28
**	Level Sensor Probe	C29
**	Circulation Pump Tube Clip	C30
**	M4x16 St/St PHD Screw (200)	C31
**	Carbonation Tank Set - Complete	C32
131643	1/4" Stem Elbow	C33
132448	SCV/1-Way Valve	C34
**	Elbow Vent Fitting	C35
**	EPS Filler Block	C36
**	EVA Foam ( Soft )	C37
174378	Carbonation Pump Set	C38
**	1/4" PFx3/8" BSP-Male Fitting	C39
131652	Angled 1/4" PFx3/8" BSP-Male Fitting	C40
**	Transformer	C41
**	M4x16L FHD Screws (200)	C42
191186	Control Panel Label	O1

\*\* Non stock item – available on special order. Please contact After-Sales Support with model number and Exploded Component Diagram reference number.



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## u1 Undercounter Systems All Models



## Electrical Circuit & Water Pathway Diagrams

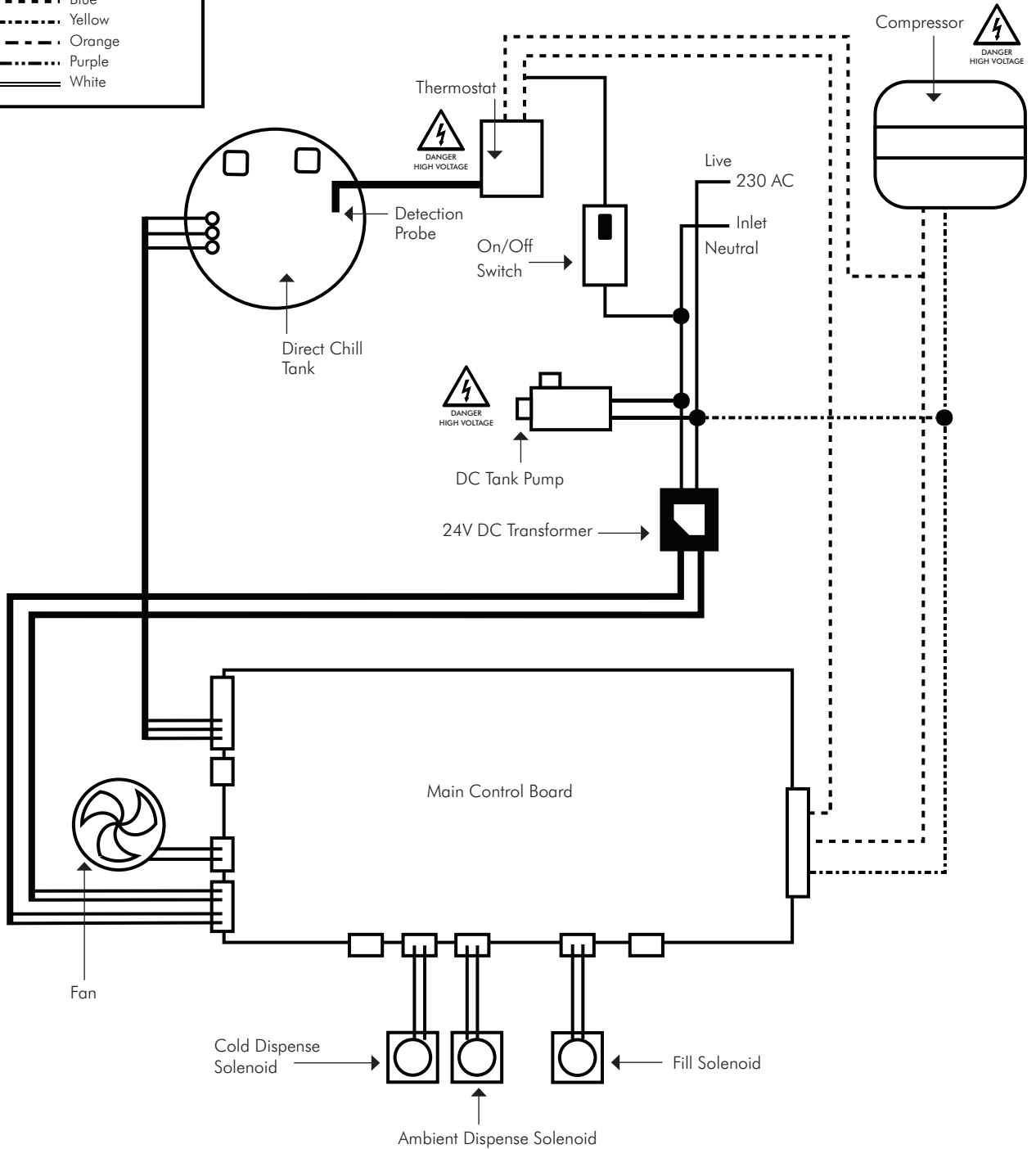
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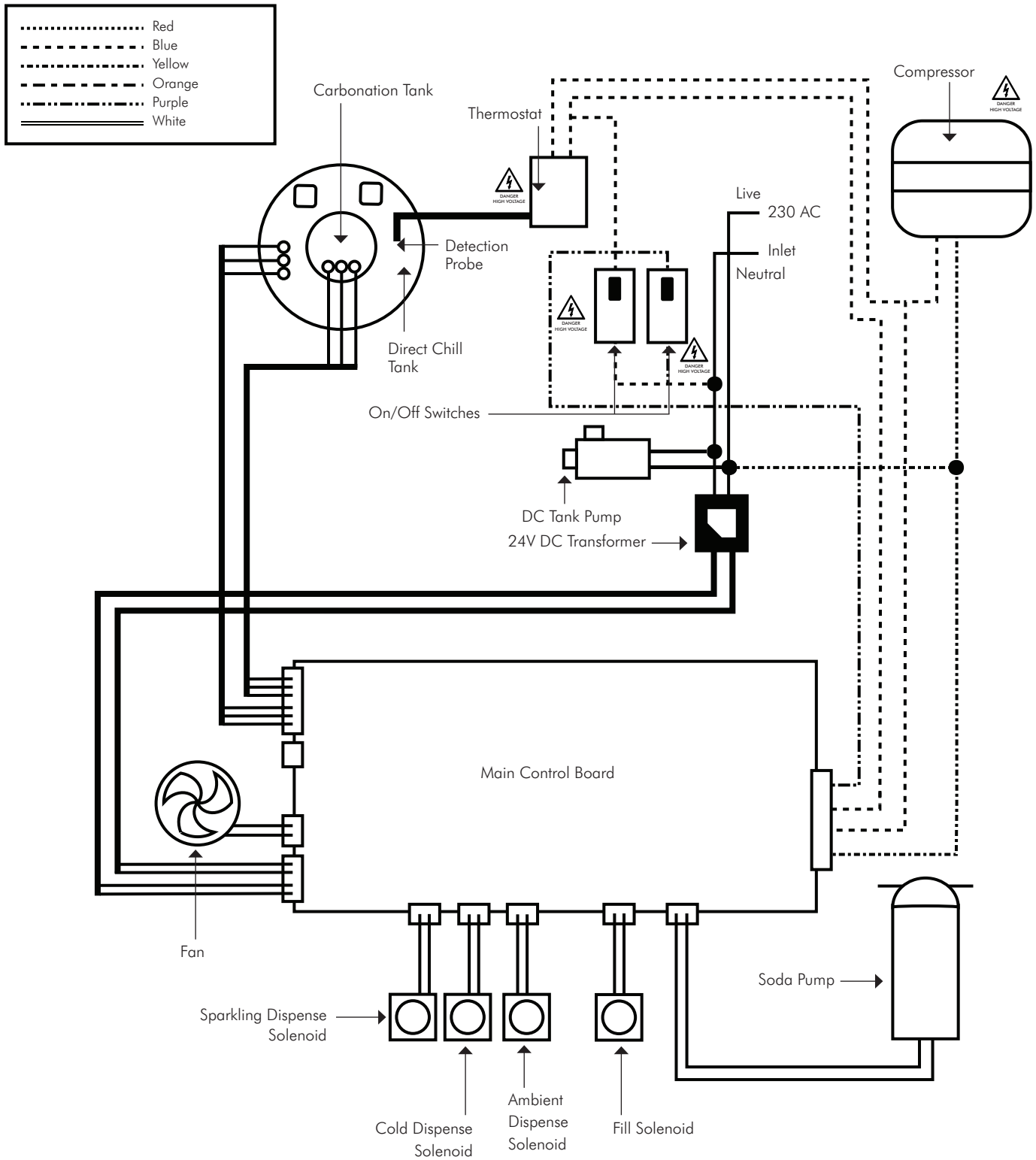
# Electrical Circuit Diagram u1 Chilled & Ambient

.....	Red
.....	Blue
.....	Yellow
.....	Orange
.....	Purple
=====	White

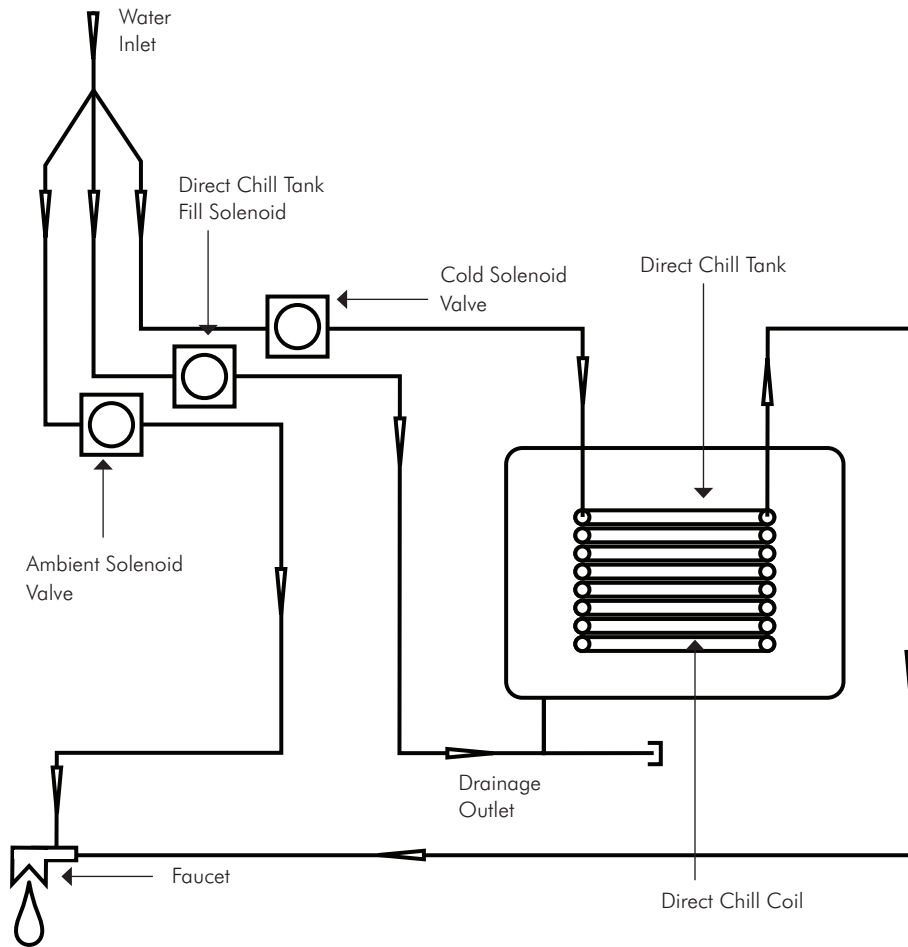


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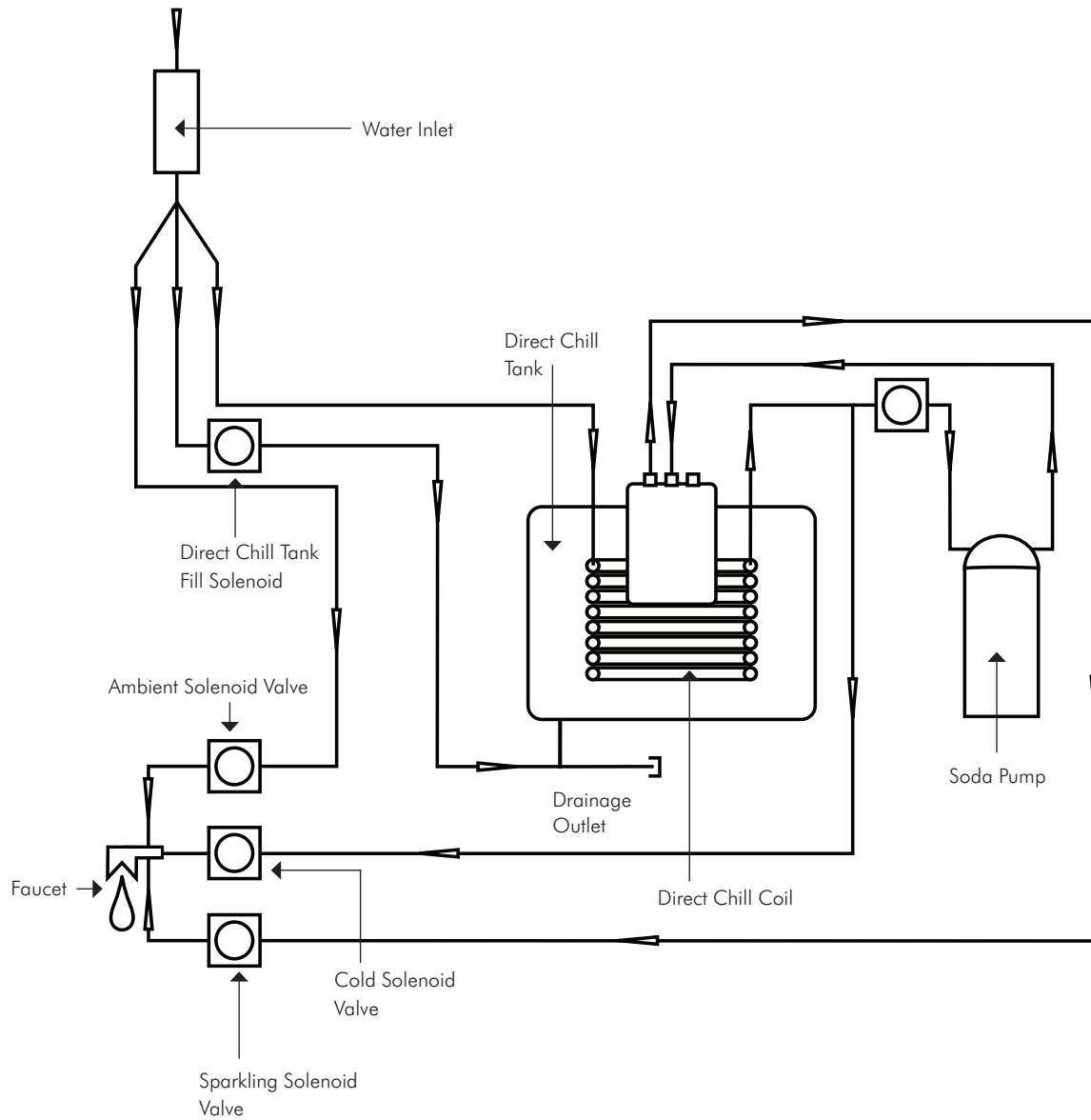
# Electrical Circuit Diagram u1 Chilled, Ambient & Sparkling



# Water Pathway Diagram u1 Chilled & Ambient



# Water Pathway Diagram u1 Chilled, Ambient & Sparkling





# CE Declaration of Conformity CE

**Producer:** Borg & Overström  
 Synergy House  
 Fakenham Road  
 Morton-on-the-Hill  
 NR9 5SP  
 UK

**Product Type:** Water Dispenser  
**Model Range:** u1 Undercounter Systems

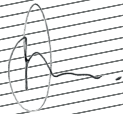
**According to:**

EMC Directive 2004/108/EC  
 WEEE Directive 2012/19/EU  
 RoHS Directive 2011/65/EU  
 LV Directive 2006/95/EEC  
 GPSP Directive 2001/95/EC

**Applicable Regulations & Standards:**

EN55014-1:2006+A1:2011  
 EN61000-3-12:2011  
 EN61000-6-3:2007/A1:2011  
 EN60204-1:2006/AC:2010  
 UK 2012 No.3032  
 UK 2006 No.3289

We declare that the above product(s) comply with the relevant basic requirements of the known EC regulations, provided the products are installed and used in accordance with the parameters of their design and purpose, as identified.



Daniel Lyon  
 Senior Managing Partner

Date February 2013

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