

Install & Operation Manual

Dispense options

Chilled & Ambient
Chilled & Hot



Chilled



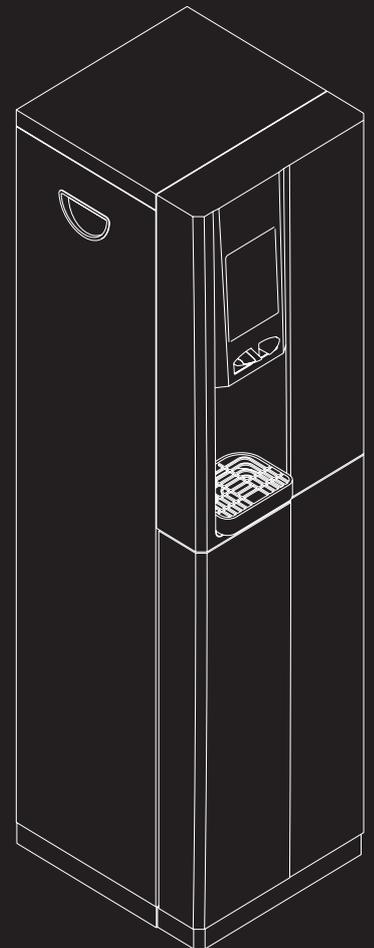
Ambient



Hot

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Model Overview

Introduction

A range of compact water dispensers, available as a Reservoir (gravity fed) system and a Direct Chill system:

- Reservoir Chilled & Ambient
- Reservoir Chilled & Hot
- Direct Chill Cold & Ambient
- Direct Chill Cold & Hot

The b2 model is available as countertop and floor standing in three colours.

All Models

All models are self-contained machines with robust steel chassis and attractively injection moulded plastic front and top panels. For floorstanding models there is sufficient space internally for most filters. For countertop models any filters would need to be fitted externally.

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).

Chilled

Water is fed into the insulated cold tank under mains pressure. We strongly recommend a Pressure Reducing Valve is fitted to all supplies to regulate the pressure to 3.5 bar/355 KPat. The cold tank is chilled via the evaporation coil of the capillary controlled refrigeration compression system. The cold temperature is thermostatically controlled via the adjustment screw on the cold thermostat. This is factory set and is not necessary to adjust in most cases (see Controls).

Ambient

Water bypasses the cold tank for the ambient dispense option in the case of direct chill models, for reservoir models water is fed down through the baffle plate located inside the cold tank.

Hot

Hot water is provided by a hot water tank with an external heating element. Water is supplied directly into the tank under gravity fed pressure, and when full hot water is dispensed by displacement. The water flow is controlled by either a solenoid valve (direct chill models) or by a tap (reservoir models).

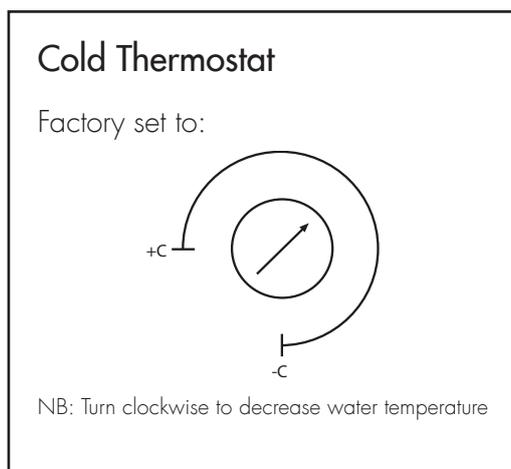
Direct Chill

Borg & Overström Direct Chill utilises innovative technology to chill water instantly. We recommend this system for more demanding environments because of its optimum dispense performance and unrivalled hygienic qualities. Superior to the gravity fed Reservoir system, Direct Chill technology chills water on demand for the ultimate drinking experience.

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Controls



Chilled

On/Off Switch: at rear of machine, switches cooling operation on/off.

Cold Thermostat: At rear of machine.

NOTE: on a Direct Chill model this is located inside.

Cold Tap: Push tap lever down.

Reservoir Models - Cold & Ambient only:

Green LED: Cooling operation is switched on.

Yellow LED: Colour shows compressor is in operation.

Ambient

Ambient Tap: Push tap lever down.

Hot

On/Off Switch: The hot water heating mode

is controlled by a switch on the back of the unit, next to the cooling mode switch. This switch is labelled "Hot".

Hot Thermostat: regulated by a pre-set, non-adjustable sensor on the tank.

Hot Tap: Lift red safety tab and push down lever.

Red LED (on hot water icon): Colours to show heating mode is enabled.

Reservoir Models - Cold & Hot only:

Green LED: Cooling operation is switched on.

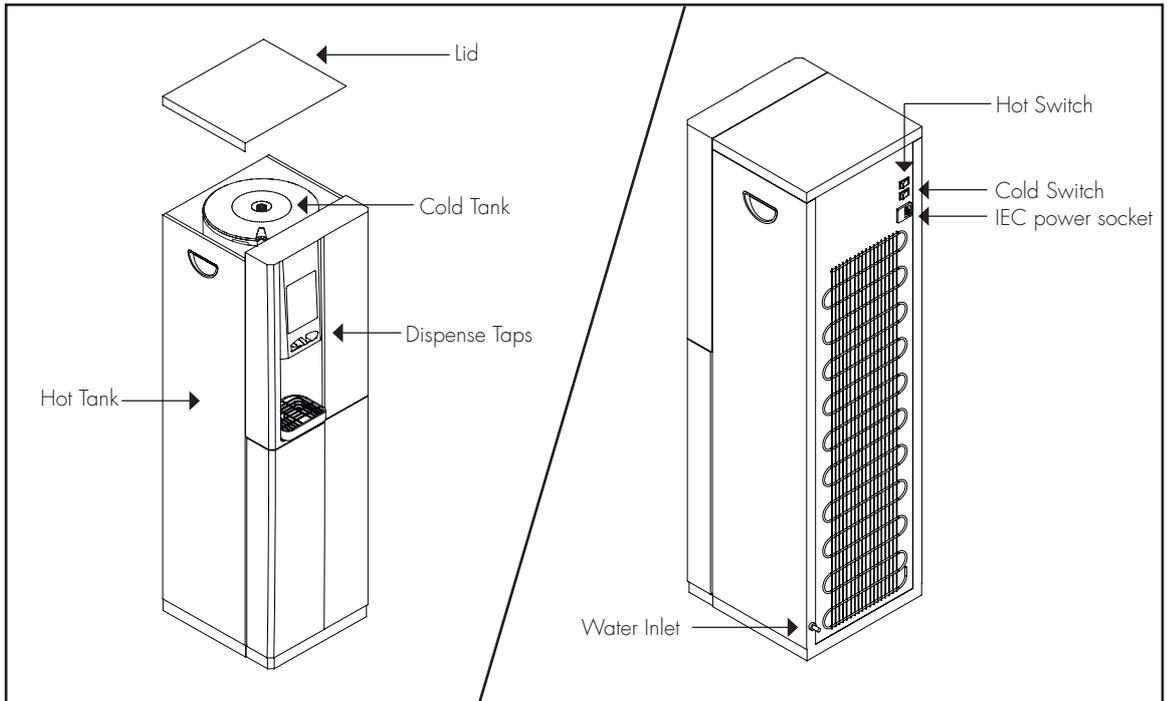
Yellow LED: Hot operation is switched on.

Red LED: Heater element active according to thermostatic demand.

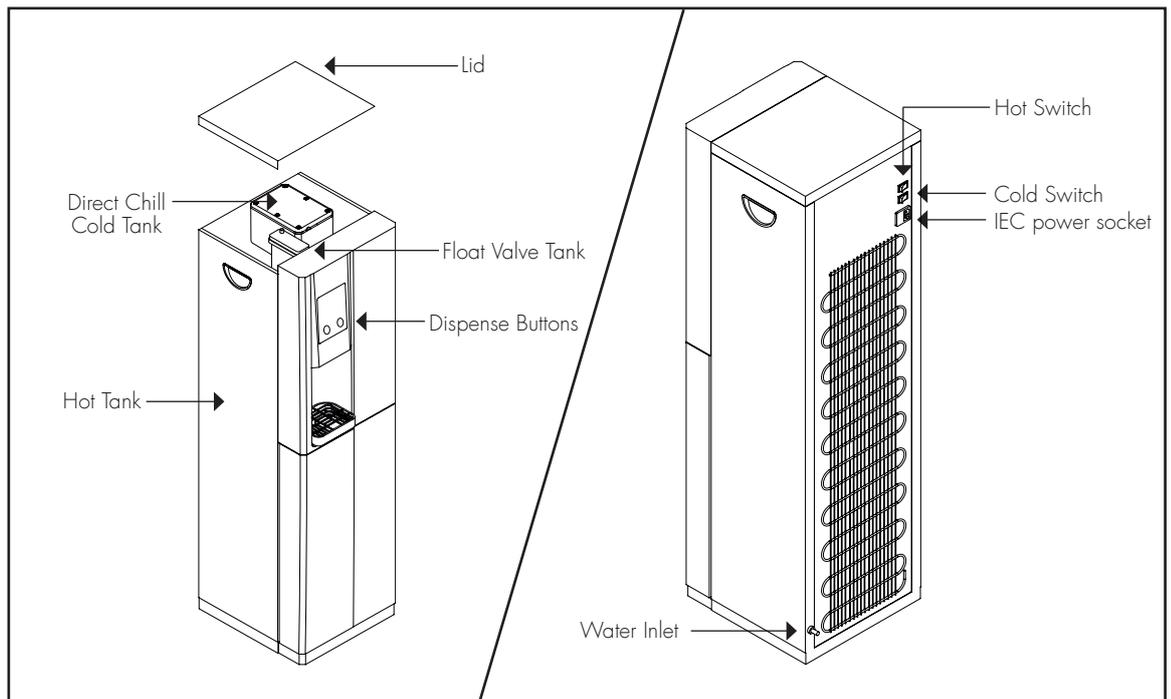
10A Fuse: On rear of machine, integral with IEC socket.

Components

Major Components & Water Connection - Reservoir variant

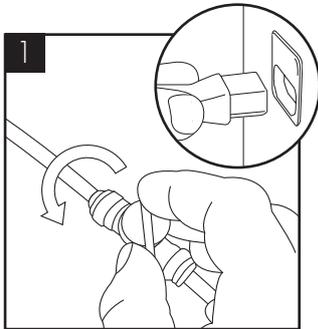


Major Components & Water Connection - Direct Chill variant

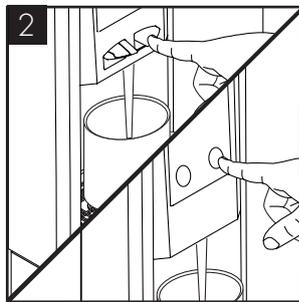


Operation

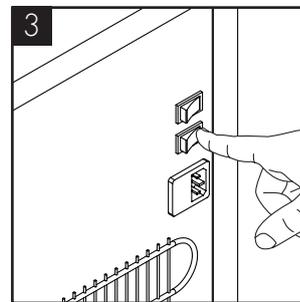
Water Connection & Operation



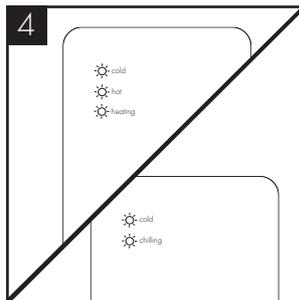
1
On reservoir models remove the Carbon bag from the cold tank. Connect and turn on the water supply. Then connect the power supply.



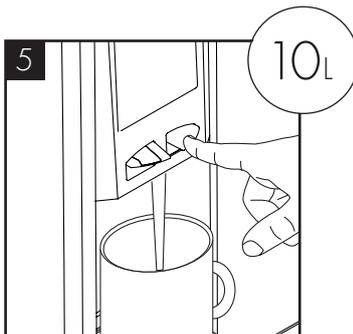
2
Dispense from all options (to confirm water supply).



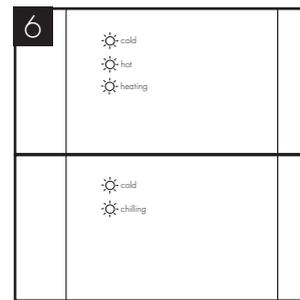
3
Turn on the cold switch (located at the rear on the unit) to begin the chilling process.
Turn on the hot switch (also located at the rear on the unit) to activate the heating element.



4
The relevant indicator lights will be lit.



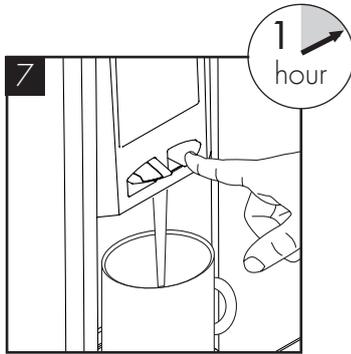
5
Flush through 10 litres of water before use.



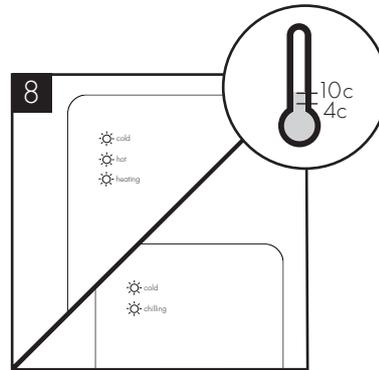
6
Chilled & Ambient:
When the Green LED is on the cooling circuit is activated.
When the Yellow LED is on the compressor is operating.

Chilled & Hot:
When the Green LED is on the cooling circuit is activated.
When the Yellow LED is on heating circuit is activated.
When the Red LED is on the heating element is activated.

Water Connection & Operation (Continued)

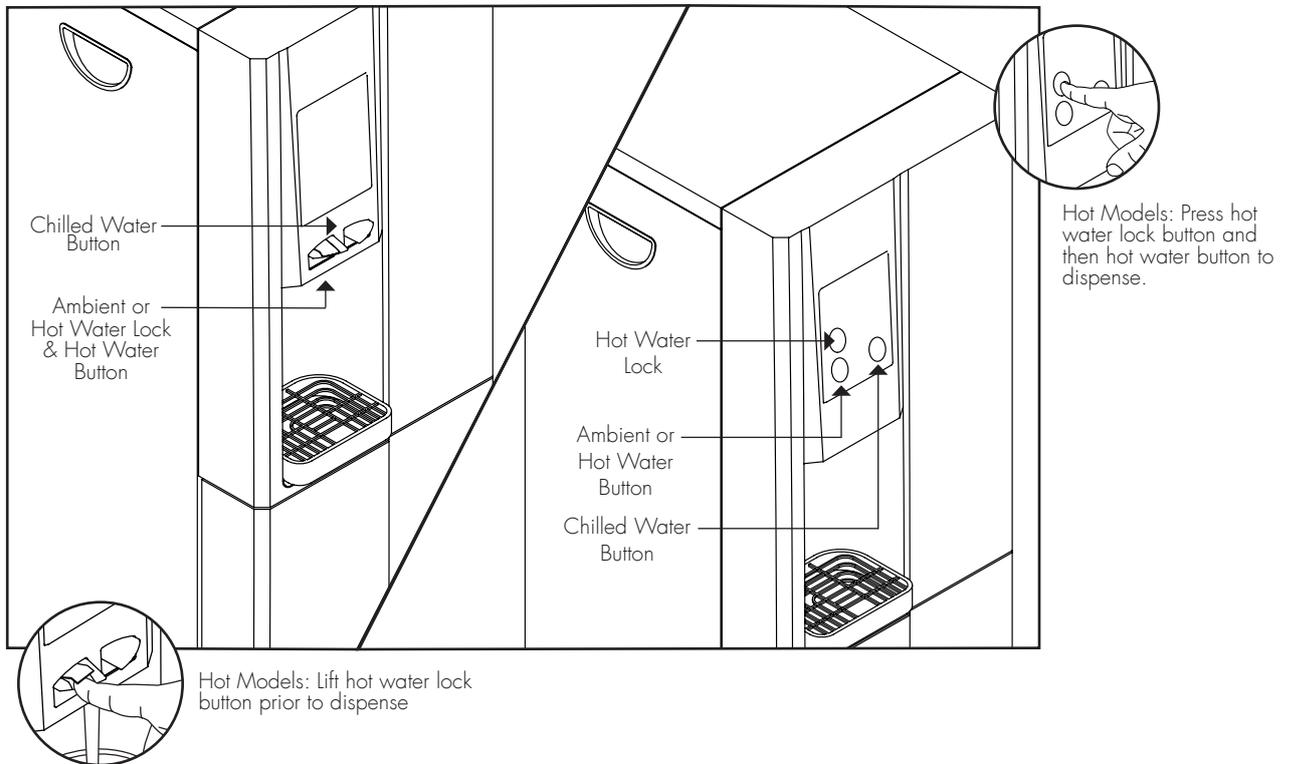


Allow up to 1 hour for the water to reach its minimum temperature.

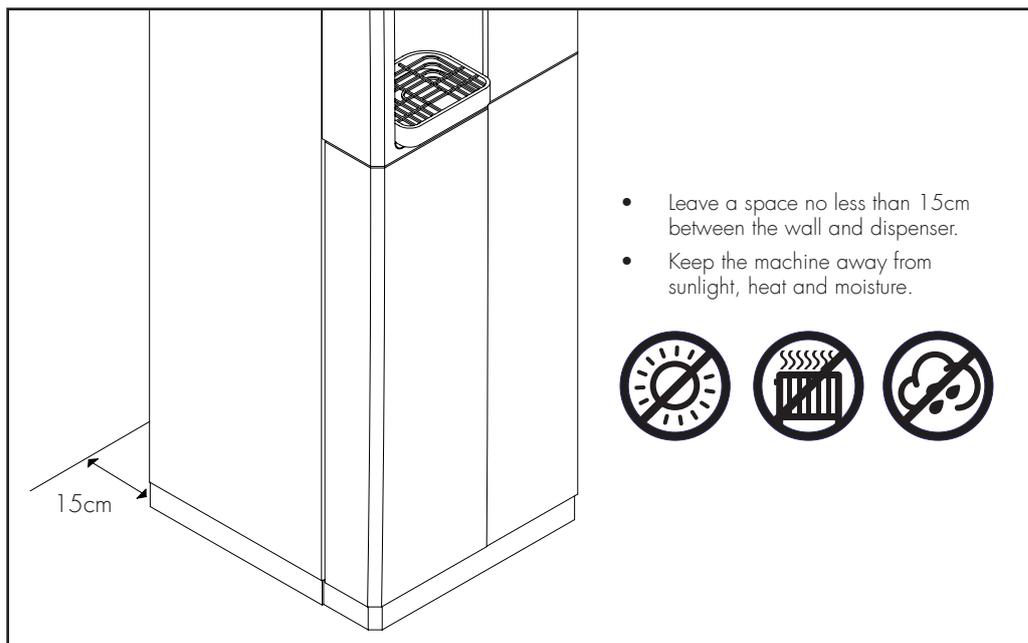


The temperature of the chilled water can be set from 4c to 10c. When the chilling LED is off the set temperature has been reached. This can take up to one hour.

Functions & Controls



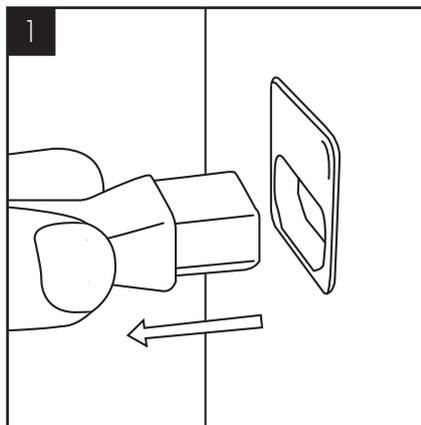
General Safety



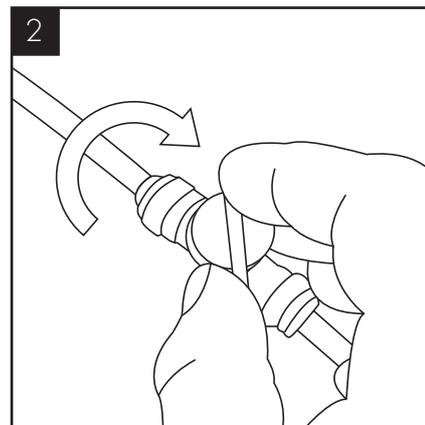
Maintenance

NOTE: All maintenance operations must be carried out with the dispenser switched off.

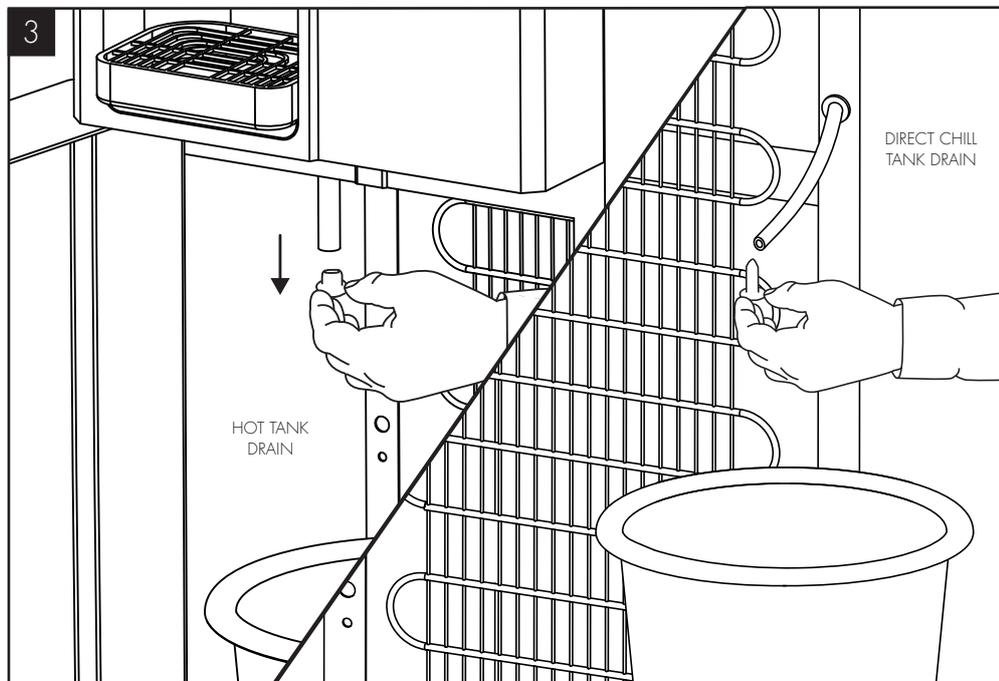
Isolation & Removal



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



Turn off the water supply.



To drain cold and ambient units, simply push each tap lever until no water dispenses. For cold and hot dispensers push the cold dispense until no water dispenses and then remove the drain bung to empty the hot water tank.

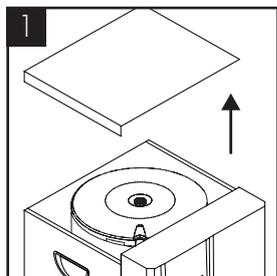


Caution: hot water may spill from the hot tank during this operation.

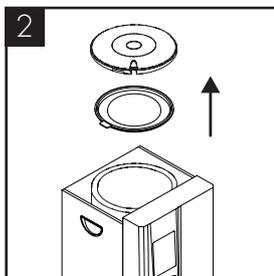
Sanitisation Guide

NOTE: Before beginning the sanitation process please ensure that water is turned off at the mains and refer to the MSDS document for further information. Use bioguard hand gel and ensure gloves are worn.

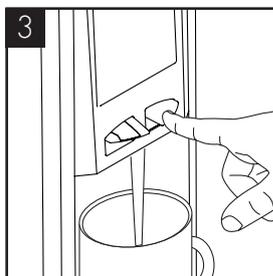
For reservoir variants always ensure that the hot water outlet is plugged before beginning this procedure (use gloves). Never push the hot water button during the sanitisation procedure.



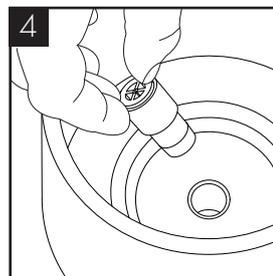
Remove the top panel by undoing 2x screws at the rear of the dispenser.



Remove the polystyrene lid. Gently lift the plastic lid from the tank, taking care not to disconnect the plumbing.



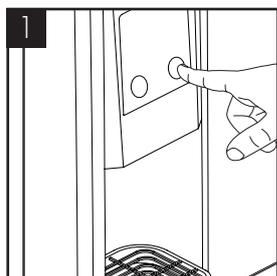
Dispense chilled water until the baffle plate is accessible.



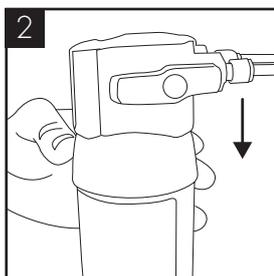
Insert the Hot tank sanitisation plug into the centre of the hot tank, press down firmly. Refit the plastic lid to the tank.

Follow steps 1-12 below.

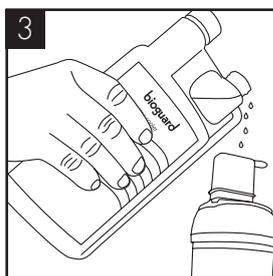
Once the sanitisation procedure is complete repeat step 3 and reverse step 4 above, then remove the Hot tank sanitisation plug and replace the plastic lid firmly on the tank, then replace the polystyrene lid and top panel. Ensuring the screws are done up before leaving.



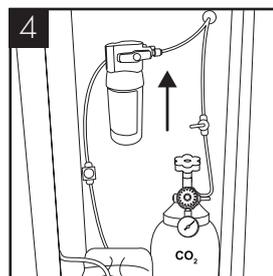
Briefly press chilled/ambient dispense buttons to release internal water pressure from the machine.



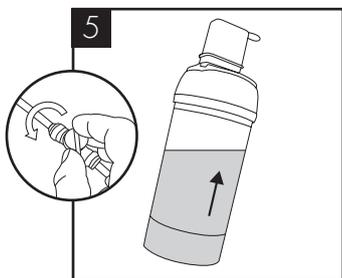
Remove the existing filter.



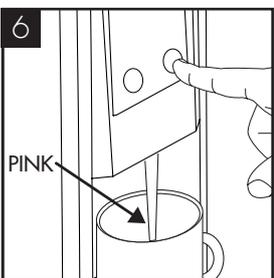
Add 25 ml of Bioguard Internal Sanitisation fluid to a clean and empty service filter cartridge.



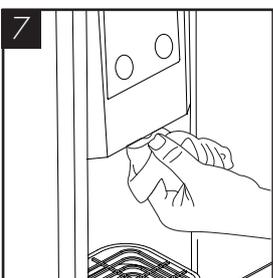
Connect to machine.



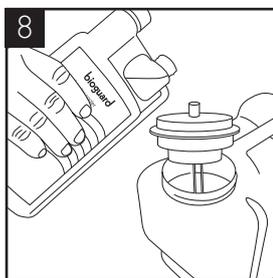
Turn on incoming water, allow service cartridge/doser to fill.



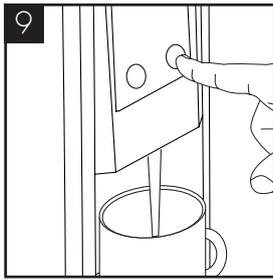
Dispense water using the chilled button until the water appears pink. Briefly press the ambient button too.



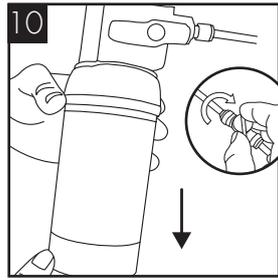
Leave the solution inside machine for sanitisation (minimum 5 minutes) while thoroughly cleaning the machine externally, pay particular attention to the dispense faucet and buttons.



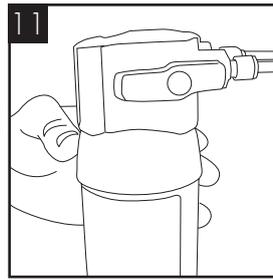
Remember to include the drip tray. If a Waste Overflow System is fitted, empty this and flush through with a small amount of sanitisation fluid if needed.



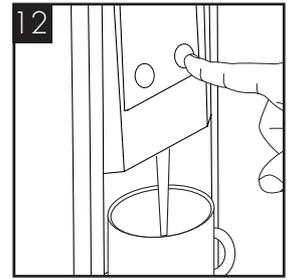
When the external cleaning (minimum 5 minutes) is completed, flush the machine using the chilled button with clean water until the dispense water runs clear. Repeat briefly with the ambient button.



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



Fit new filter. Turn on incoming water supply.



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.



Please note that this sanitisation fluid contains an active caustic/alkaline agent. 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.



Avoid skin contact and wear protective gloves when handling sanitisation fluids



In the event of any skin contact, flush immediately with clean, cold water

Advanced Troubleshooting

Fault Diagnosis: No Water Dispenses

Problem/Report	Possible Cause	Suggested Action
From Ambient Tap	Water Supply turned off (and tank empty).	Check all that taps/valves/ filters on the incoming supply are fitted and are turned on.
	"Waterblock" tripped off (and tank empty).	Reset "Waterblock" (and check for any leaks).
	"Leak detector" (if fitted) tripped off (and tank empty).	Disconnect the power and water supply, reset the machine (check for leaks).
	Tap not working (and tank full).	Dismantle and check the tap, completely replacing the tap or just the washer as necessary.
	Reservoir Float Valve jammed (and tank empty).	Replace/adjust position/repair as needed.
	Blocked tank outlets/pipes.	Check and unblock or replace as needed.
From Cold Tap	Firstly all as for Ambient Tap.	Carry out checks and actions as for ambient tap.
	Chiller tank frozen – Thermostat set too low.	Thaw out the machine and increase cold water temperature.
	Chiller tank Frozen - Thermostat not working.	Thaw out the machine and check thermostat. Replace Cold Water thermostat as needed.
From Hot Tap	Firstly all as for Ambient Tap.	Carry out checks and actions as for ambient tap
	Airlock in dispense pipe work.	Unblock/replace hot water pipe and hot vent pipe. (Check water level showing in hot vent pipe).
	Tank filled with limescale.	Replace tank.

Fault Diagnosis: Water Dispenses but not Correct Temperature

Problem/Report	Possible Cause	Suggested Action
Ambient Water too Warm	Low usage and/or heat from compressor influencing stored water.	Check tank insulation and/or advise customer.
	High usage and/or water supply pipe in warm ducting.	Advise customer.
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.
	Thermostat not working.	Check/replace thermostat.
	Compressor runs but not switching off (hot to touch).	Please contact technical support.
	Refrigeration problem.	Please contact technical support.
	Compressor not running at all.	Please contact technical support.
	No electricity power supply.	Check the Power cord is connected and live, and the machine is switched on.
	Compressor only hums slightly/briefly.	Check and replace relays.
	Relays loose.	Check and refit relays.
	Compressor not working.	Please contact technical support.
	Cold tank Baffle Plate not connected.	Refit Baffle Plate.
Hot Water not Hot	Hot water mode switched off.	Switch on hot water mode (status LED should show).
	Heating operation tripped off.	Reset overheat button on hot tank.
	Break in supply wiring to control circuit.	Locate break and repair.
	Hot water demand too high.	Advise user/s.
	Main reheat element not working (Red LED on all the time).	Check supply voltage and current to hot thermostat and replace accordingly.
	Hot tank heavily scaled (signs of scale in top of tank, loud boiling noises etc).	Carry out thorough descale or replace hot tank.
	Break in supply wiring to main element.	Locate break and repair.

Fault Diagnosis: Water Leaks

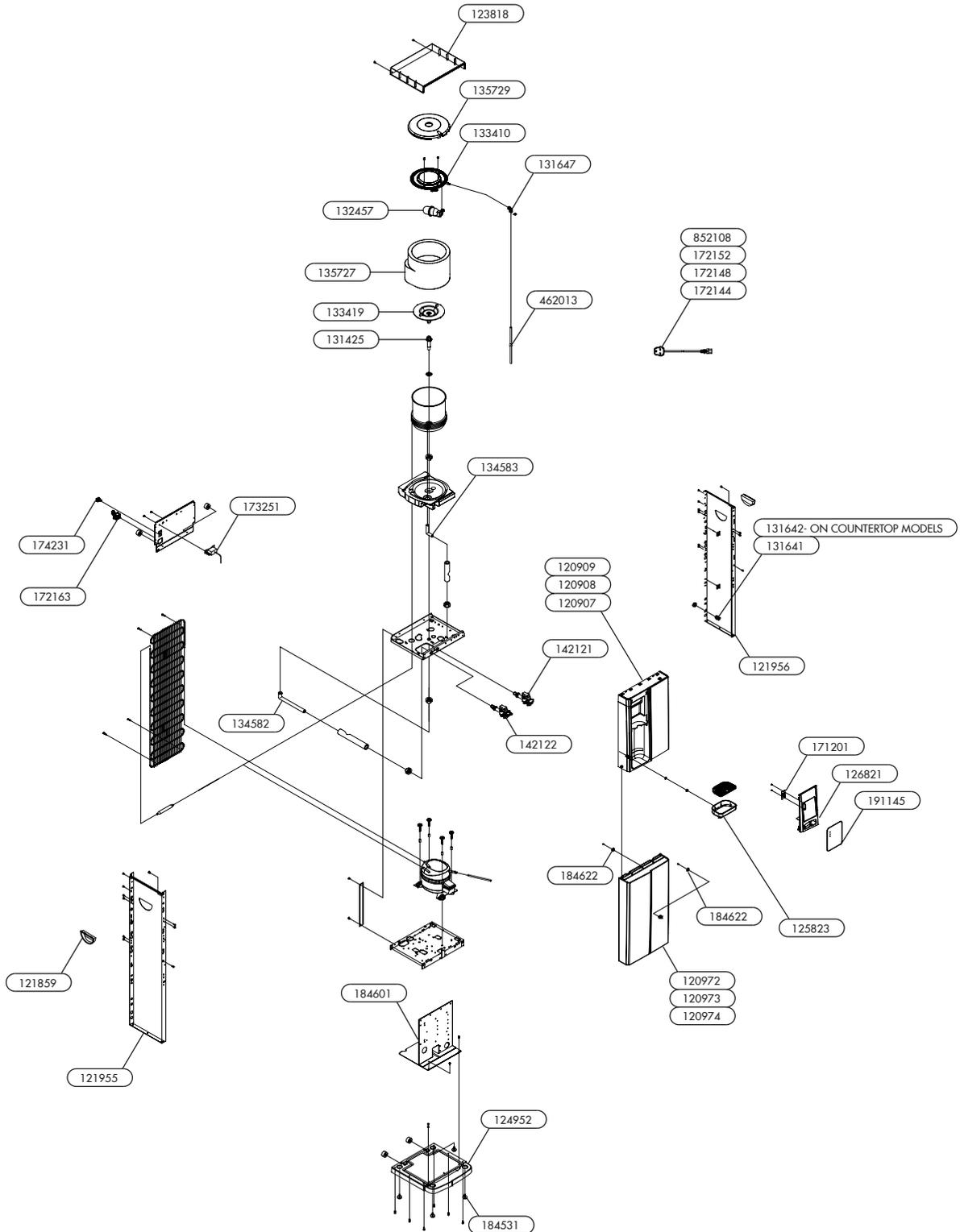
Problem/Report	Possible Cause	Suggested Action
Water lying on top edge of lower door panel and/or bottom of the machine.	Overflowing Drip Tray waste container.	Empty Waste Container and check drainpipe is not blocked.
Water lying in bottom of machine.	Leak in supply inlet pipe work and/or filter.	Locate and repair accordingly.
	Leak from machine water pipes and/or fittings.	Locate and repair accordingly.
		Check pressure and fit pressure reducing valve if needed.
	Overflowing cold tank.	Reservoir Variant: float valve not connected or malfunctioning - replace if necessary.
		Direct Chill Variant: float valve or internal cold tank water fittings not connected or malfunctioning - replace if necessary.
	Water pressure too high.	Check pressure and fit pressure reducing valve if needed.
	Jammed float valve.	Check and repair float valve.
	Split Float Valve washer.	Replace washer.
	Overflowing cold tank (Hot Tank exclusively sealed).	Replace hot tank.
	Hot Tank thermistor probe not working.	Check and replace probe (Conversion Kit recommended).
Control Board not working.	Check and replace main control board (Conversion Kit recommended).	
Condensation from tank or cold water pipe.	Check insulation and repair/replace accordingly.	

Fault Diagnosis: Miscellaneous

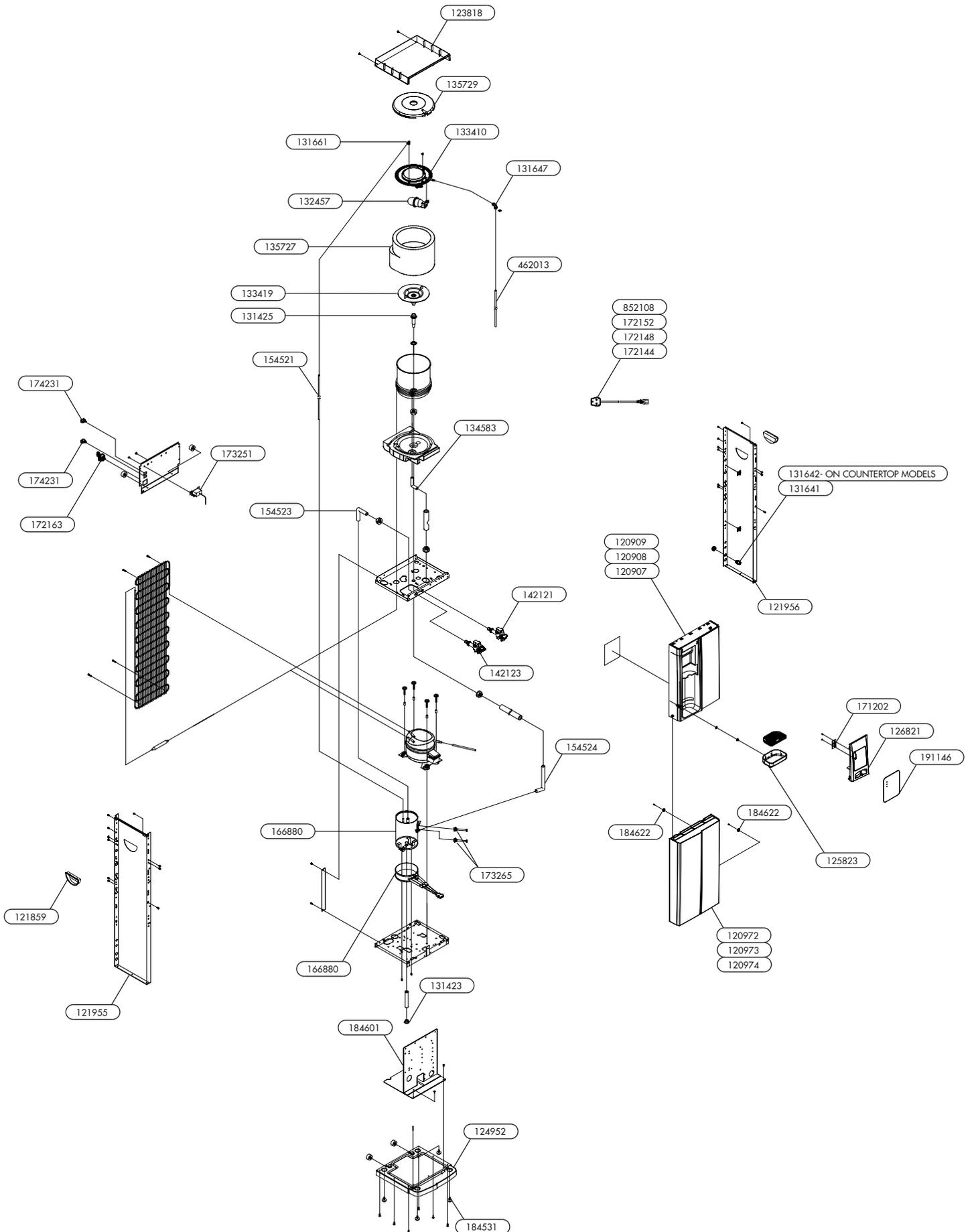
Problem/Report	Possible Cause	Suggested Action
No LED Control Lights	No electricity to Machine.	Check power supply and reconnect as necessary (Also check out other symptoms as described separately).
	Control PCB not working (Machine working normally otherwise).	Check/replace PCB.
Machine Shakes on Start-up	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.
		Please contact technical support

Exploded Diagrams & Parts List

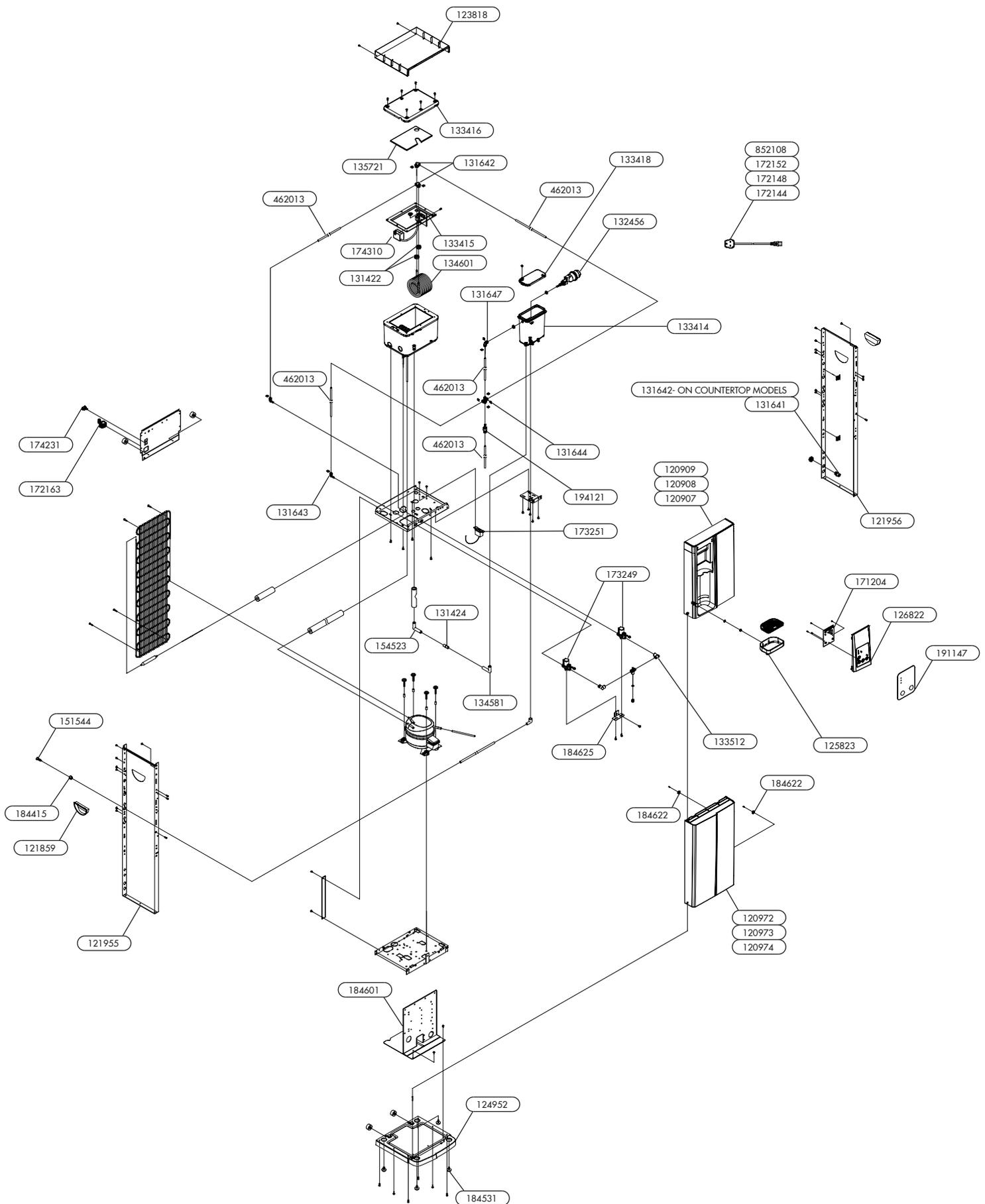
Chilled & Ambient - Reservoir variant



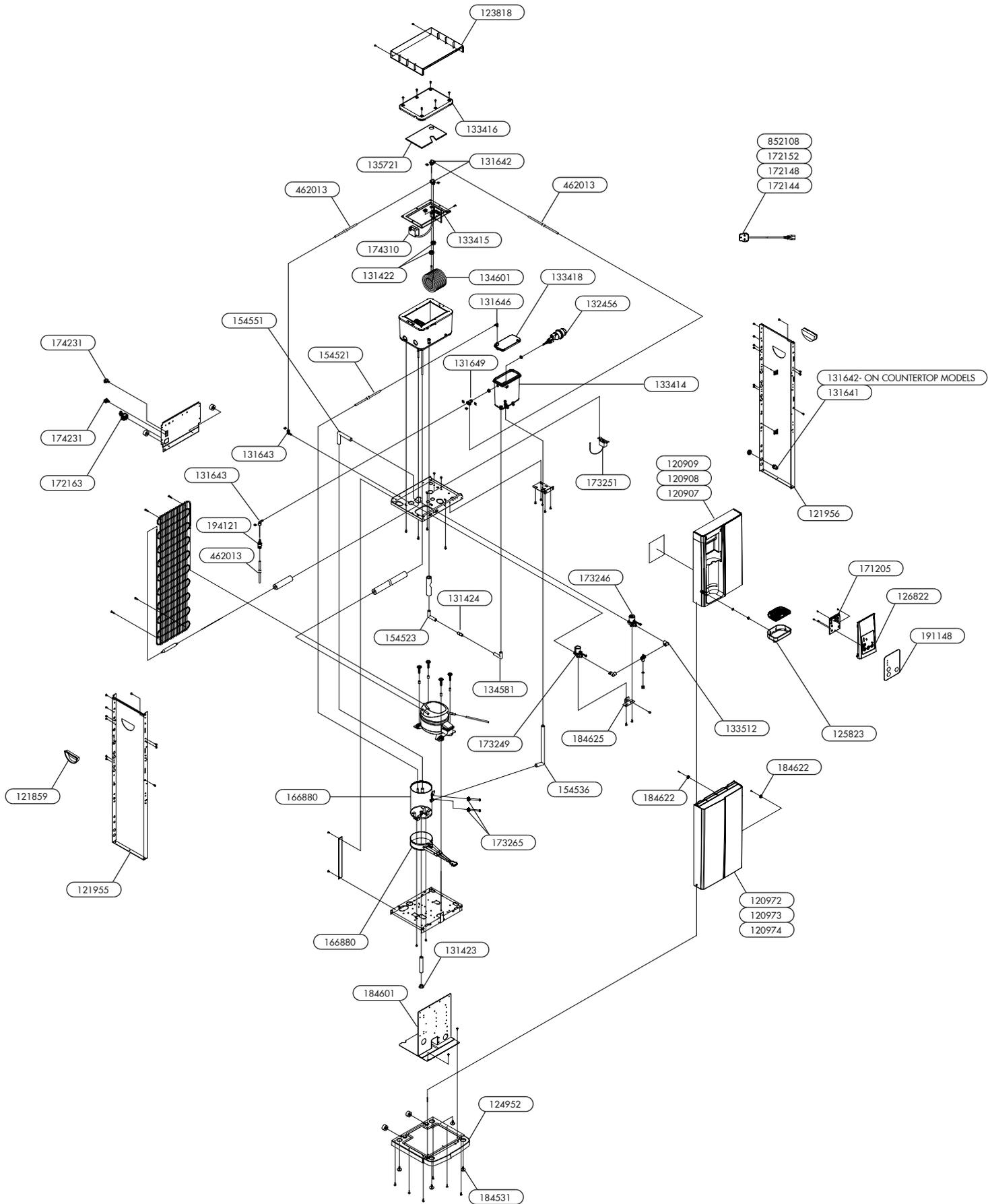
Chilled & Hot - Reservoir variant



Chilled & Ambient - Direct Chill variant



Chilled & Hot - Direct Chill variant



Parts List

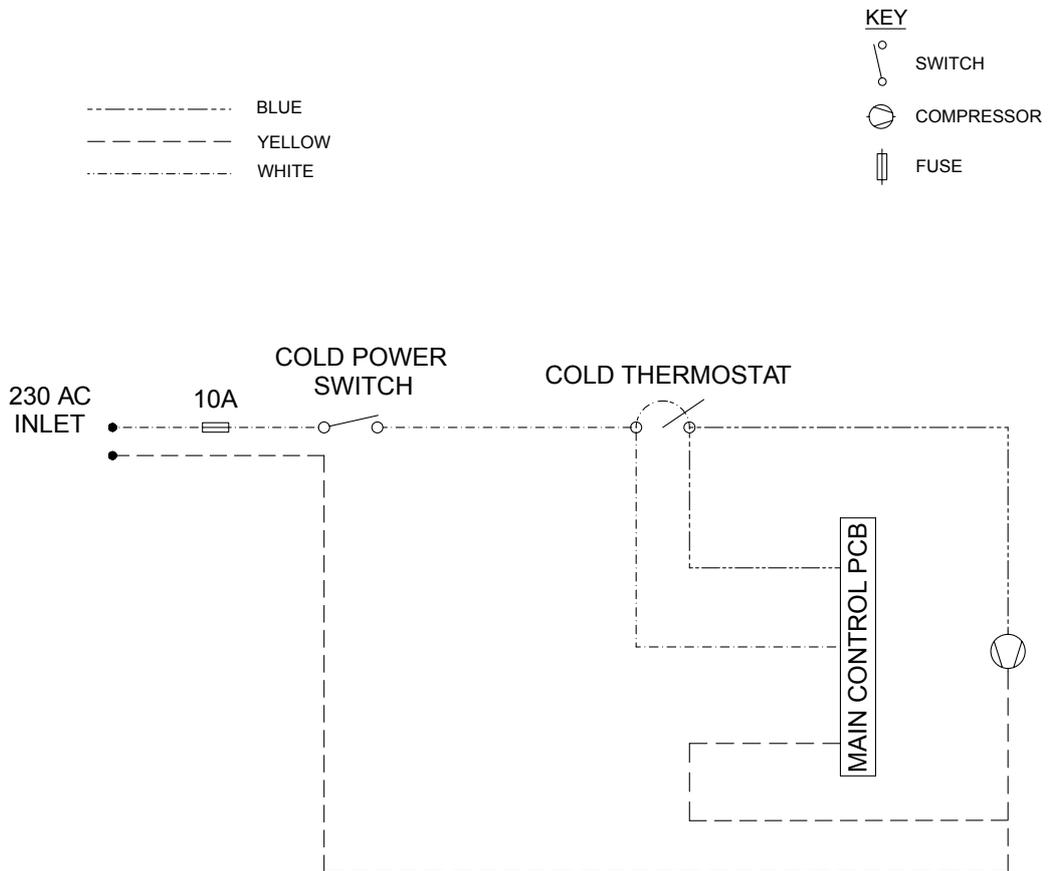
Borg & Overstrom Part No	Description
120907	b2 NG Front Panel - Silver
120908	b2 NG Front Panel - White
120909	b2 NG Front Panel - Black
120972	b2 NG Door Panel - Silver
120973	b2 NG Door Panel - White
120974	b2 NG Door Panel - Black
121859	Side Handle
121955	b2/b3 Floorstanding Left Side Panel
121956	b2/b3 Floorstanding Right Side Panel
123818	b2 NG Top Cover Panel Black
124952	b3 Floorstanding Base Panel
125823	b2 NG Drip Tray Set - Black
126821	b2 NG Tap Cover Panel - Black
126822	b2 NG DC Tap Cover Panel - Black
131422	1/4" Inlet Connector Back Nut
131423	b2 Countertop Drain Bung
131424	DC Tank Pipe Connector
131425	Insert for Cold Tank
131641	1/4" PF Inlet Straight Bulkhead Connector
131642	1/4" PF Inlet Elbow Bulkhead Connector
131643	1/4" PF Stem Elbow
131644	1/4" Push-Fit 4 way Joint
131646	Air Vent Elbow for Clip-on Tank Lid
131647	1/4" Push Fit Elbow
131649	1/4" Push Fit Tee
131661	1/4" Equal Elbow Stem only
132456	Reservoir Float Valve (Side Type) - Assembly
132457	Reservoir Float Valve (Lid type) - Assembly
133410	Clip on Tank lid Assembly
133414	b2 Direct Chill Header Tank
133415	DC Cold Tank Inner Lid
133416	DC Cold Tank Lid
133418	b2 Direct Chill Header Tank Lid
133419	Reservoir Baffle Plate
133512	b2 DC Faucet (Light Grey w/o vent)
134582	Ambient Water Pipe
134583	Cold Water Pipe
134601	DC Coil for Twin Tank Models
135721	DC Cold Tank Lid insulation
135727	b2/b3 Floorstanding Reservoir Insulation Sleeve
135729	b2/b3 Floorstanding Reservoir Insulation Top
142121	b2 NG Cold Tap
142122	b2 NG Ambient Tap
142123	b2 NG Hot Tap

Parts List - Continued

Borg & Overstrom Part No	Description
151544	b2/b3 Floorstanding Drain Bung
154521	Hot Vent Pipe - 300mm
154523	Hot Water Pipe/DC Tank Pipe
154524	Hot Tank Feed Pipe
154536	Hot Tank Silicon Feed Pipe
154551	Lshape Silicon Tube
166880	b2/b3 Hot Tank (New) c/w HB & 90/105 TC Set
171201	b2 CA Circuit Board
171202	b2 CH Circuit Board
171204	b2 CA DC Main Control Board
171205	b2 CH DC Main Control Board
172144	IEC Power Cordset - Danish
172148	IEC Power Cordset - Shucko/EURO
172152	IEC Power Cordset - UK
172163	IEC Fused Socket
173246	LP1/4PFx1/2STS230 Solenoid Valve
173249	HP1/4PFx1/2STS230 Solenoid Valve
173251	b2/b3 Cold Thermostat
173265	90C/105C Hot Tank Sensor Set
174231	Electric Rocker Switch
174310	Direct chill Pump
184415	Grommet for b2 NG DC
184531	b2/b3 Floorstanding Adjustable Foot
184601	b2/b3 Floorstanding Filter Bracket
184622	Magnetic door catch including screw
184625	Solenoid Valve Bracket for b2
191145	b2 NG Reservoir Chilled & Ambient Control Panel Label
191146	b2 NG Reservoir Chilled & Hot Control Panel Label
191147	b2 NG Direct Chill Chilled & Ambient Control Panel Label
191148	b2 NG Direct Chill Chilled & Hot Control Panel Label
194121	Grit Filter
462013	1/4" White Tubing per mtr
852108	IEC Power Cordset - Swiss

Technical Information

Chilled & Ambient Electrical Circuit Diagram - Reservoir Variant

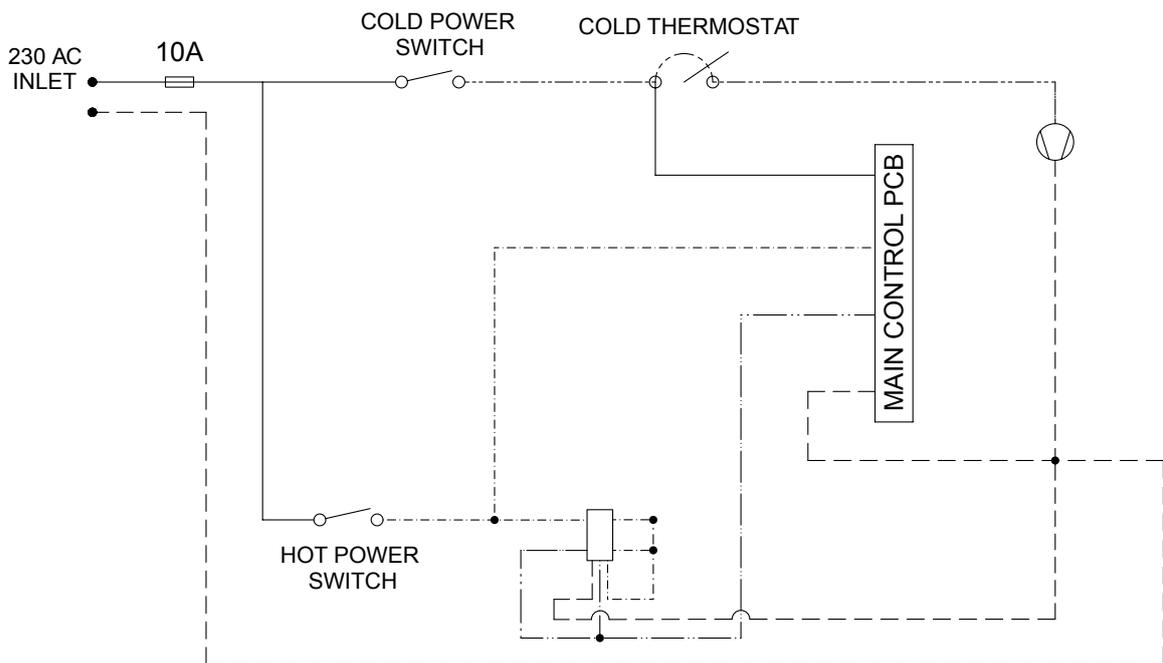


Chilled & Hot Electrical Circuit Diagram - Reservoir Variant

- BLACK
- BLUE
- - - - - YELLOW
- · · · · WHITE
- · - · - RED

KEY

-  SWITCH
-  COMPRESSOR
-  FUSE
-  HOT WATER TANK

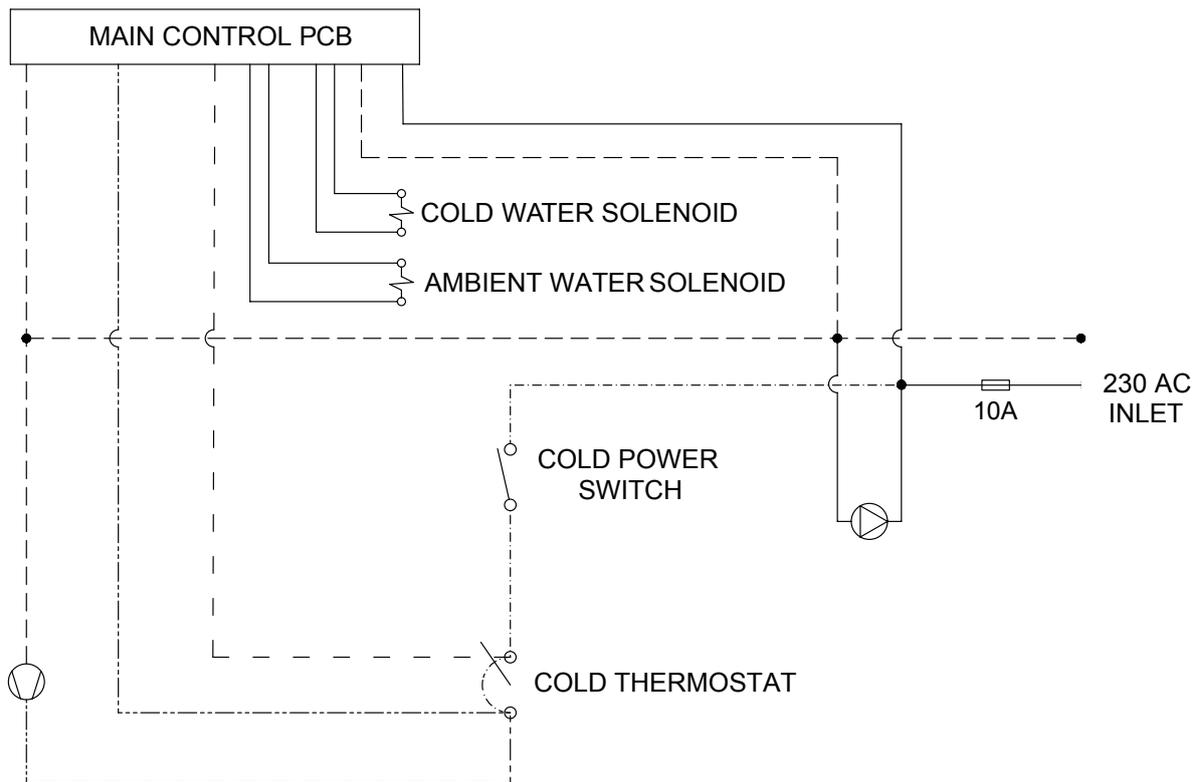


Chilled & Ambient Electrical Circuit Diagram - Direct Chill Variant

- BLACK
- BLUE
- YELLOW
- WHITE
- - - - - BROWN

KEY

-  SWITCH
-  COMPRESSOR
-  FUSE
-  PUMP

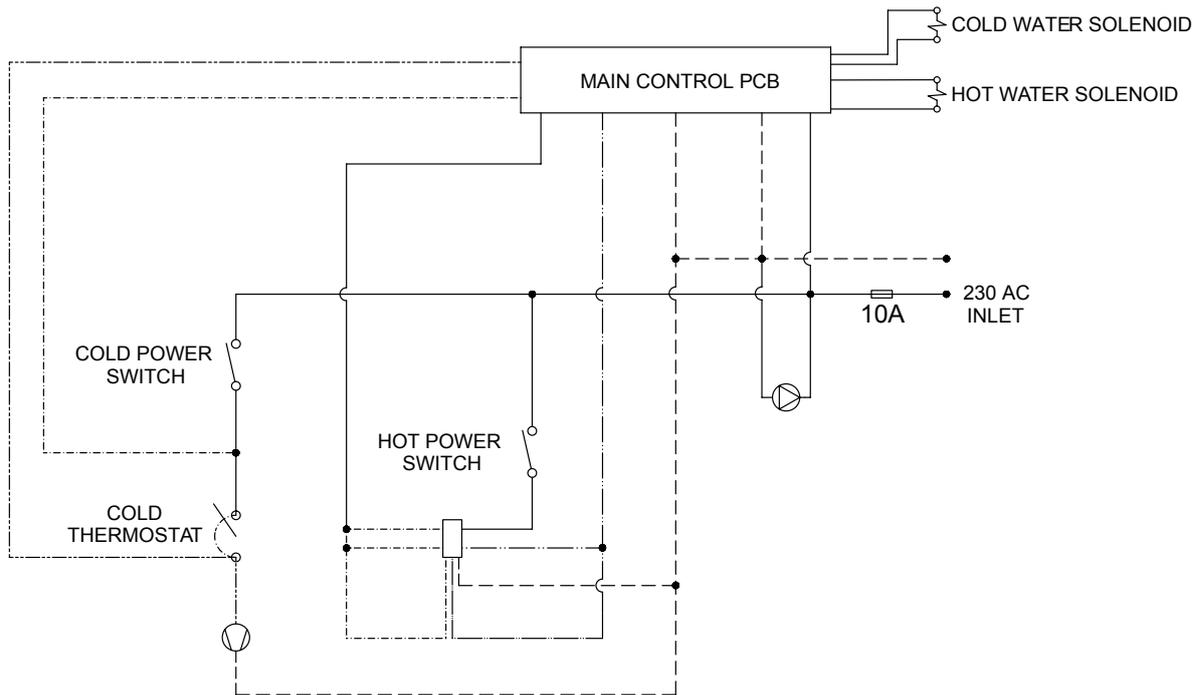


Chilled & Hot Electrical Circuit Diagram - Direct Chill Variant

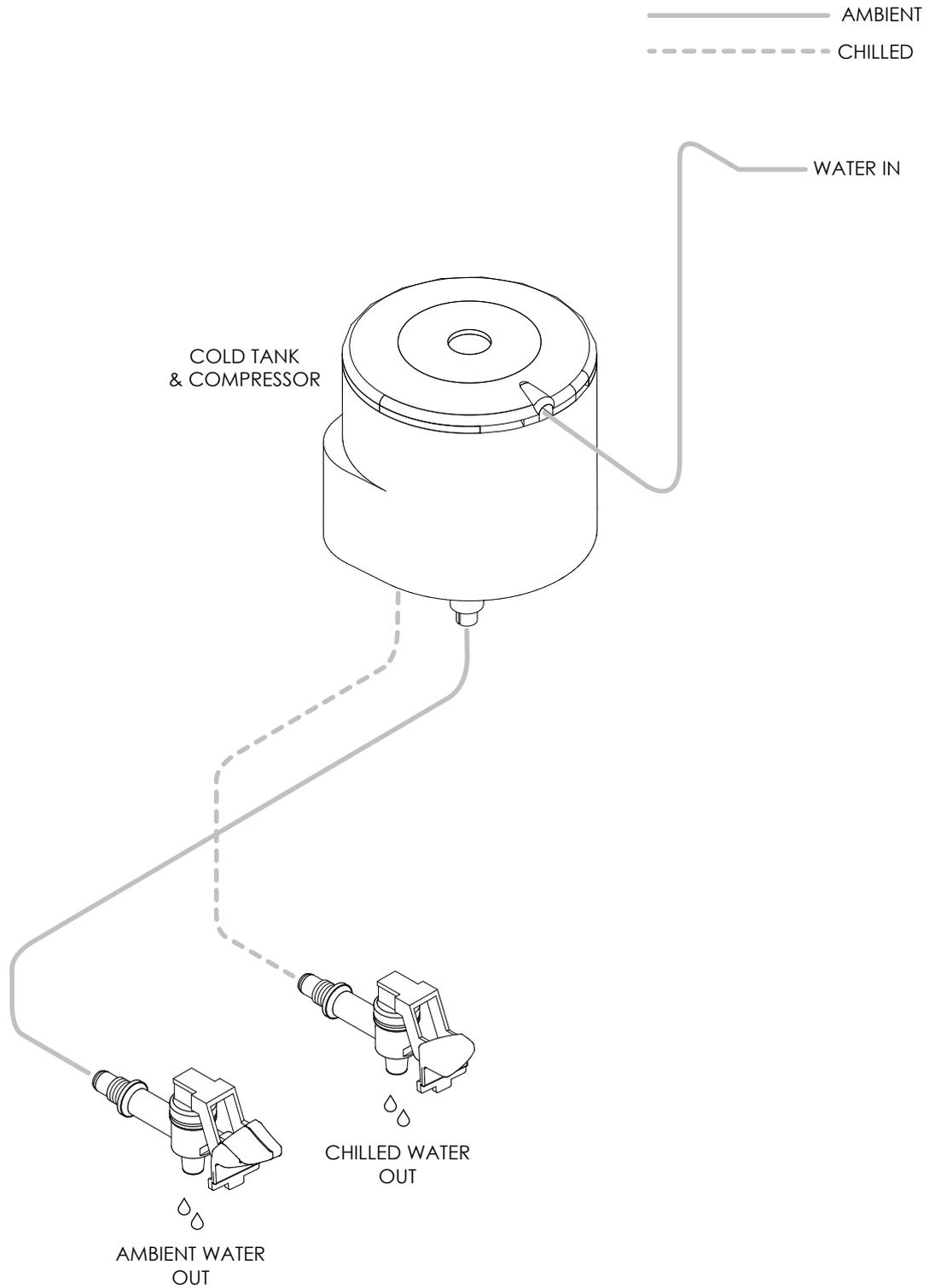
- BLACK
- BLUE
- - - - - YELLOW
- WHITE
- RED

KEY

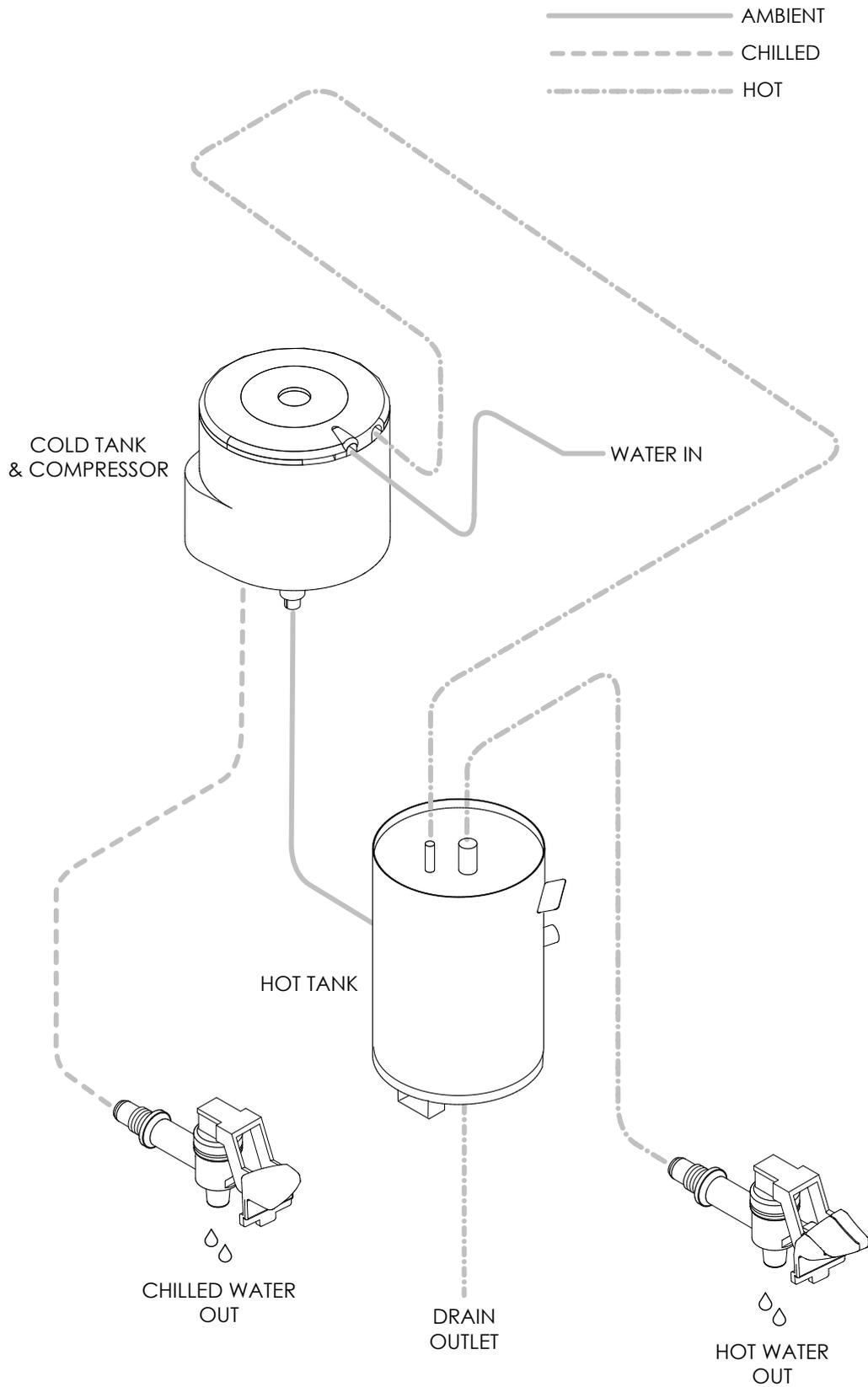
-  SWITCH
-  COMPRESSOR
-  FUSE
-  HOT WATER TANK
-  PUMP



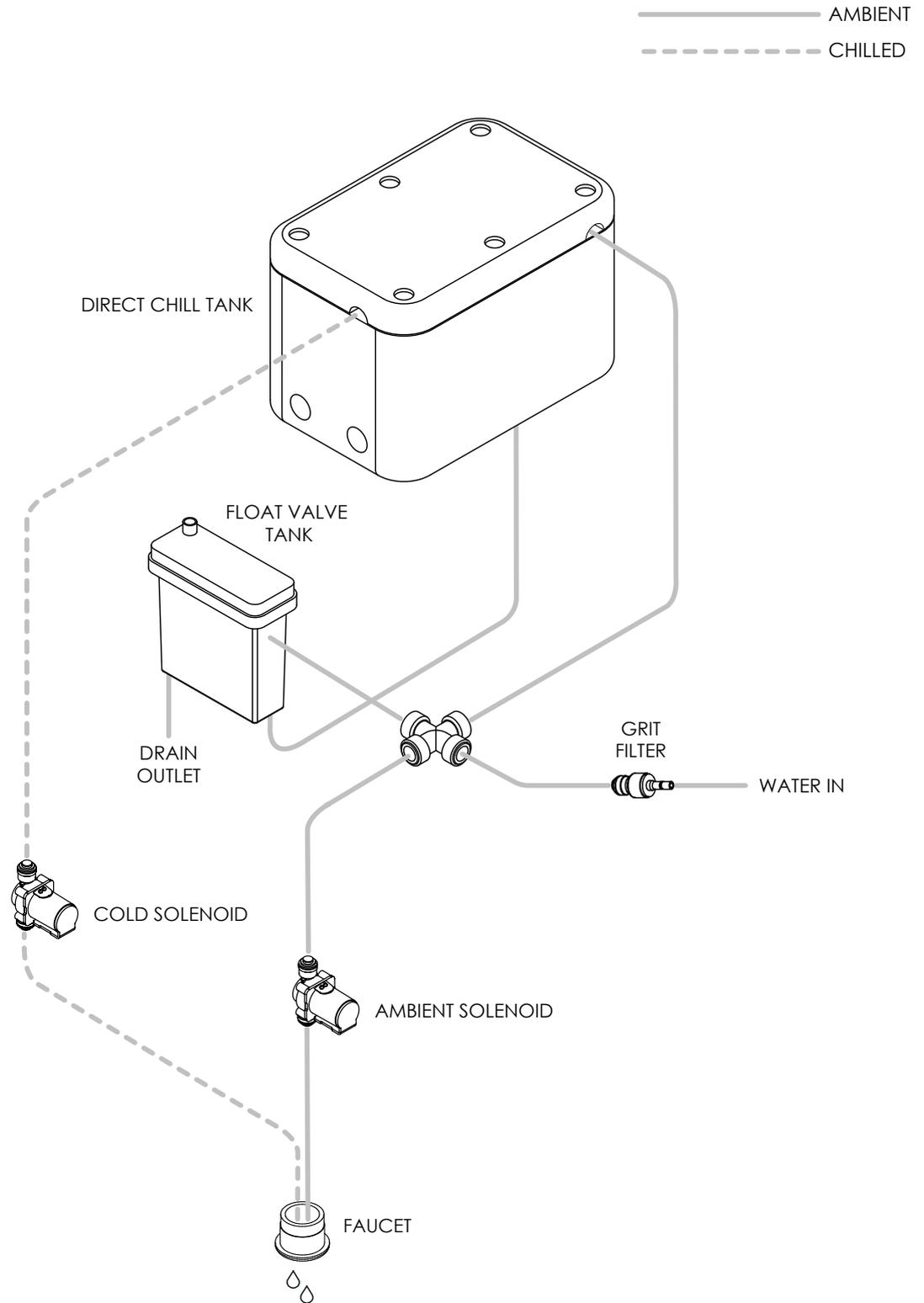
Chilled & Ambient Water Pathway Diagram - Reservoir Variant



Chilled & Hot Water Pathway Diagram - Reservoir Variant



Chilled & Ambient Water Pathway Diagram - Direct Chill Variant



Specification

COOLING SYSTEM	All Models	High efficiency compression system with capillary control. Premium quality long life hermetic compressor. External condenser. Environmentally friendly R134A refrigerant.
	Reservoir - Chilled & Ambient	High volume 3.5 litre stainless steel gravity fed cold tank for optimum water capacity on demand. Insulated tank for energy conservation. Large volume output. Thermostatically controlled chilled water temperature (range down to 2°C minimum).
	Direct Chill - Chilled & Ambient	Sealed Direct Chill Ice bank tank for optimum water capacity on demand and hygiene. Low sanitisation and maintenance. Insulated tank for energy conservation. Large volume output via electronic solenoid valves. Thermostatically controlled chilled water temperature (range down to 2°C minimum).
HEATING SYSTEM	Reservoir - Chilled & Hot	High volume 3.5 litre stainless steel gravity fed cold tank for optimum water capacity on demand and hygiene with low sanitisation and maintenance requirement. Thermostatically controlled chilled water temperature (range down to 2°C minimum). 1.7lt stainless steel hot water tank with thermostatic temperature control (90°C max). Insulated tanks for energy conservation.
	Direct Chill - Chilled & Hot	Sealed Direct Chill Ice bank tank for optimum water capacity on demand and hygiene, with low sanitisation and maintenance requirement. Output via electronic solenoid valves. Thermostatically controlled chilled water temperature (range down to 2°C minimum). 1.7lt stainless steel hot water tank with thermostatic temperature control (90°C max). Insulated tanks for energy conservation.
COLD TEMPRATURE		2°C to 11°C
HOT TEMPRATURE		90°C Max
THROUGHPUT PER HOUR		22 litres cold < 12°C / 6 litres Hot > 85°C
DISPENSE		Reservoir variants have a manual tap system, and Direct Chill Variants have a light touch sensitive control panel.
MAXIMUM RUNNING POWER CONSUMPTION	Chilled & Ambient	100 watt
	Chilled & Hot	535 watt
POWER SUPPLY		IEC power socket.
WATER CONNECTION		1/4 inch quick connection.
COUNTERTOP DIMENSIONS		(w x d x h) 325 x 365 x 475mm
FLOORSTANDING DIMENSIONS		(w x d x h) 325 x 365 x 1060mm
COUNTERTOP WEIGHTS	Reservoir Chilled & Ambient	13.4kg
	Reservoir Chilled & Hot	14.0kg
	Direct Chill Chilled & Ambient	14.7kg
FLOORSTANDING WEIGHTS	Reservoir Chilled & Ambient	21.2kg
	Reservoir Chilled & Hot	21.8kg
	Direct Chill Chilled & Ambient	21.5kg
	Direct Chill Chilled & Hot	22.5kg

CE Declaration of Conformity CE

Producer:

Borg & Overström

Synergy House
Fakenham Road
Morton-on-the-Hill
NR9 5SP
UK

**Product Type:
Model Range:**

Water Dispenser
B2/B2.1/B2.2/NGB2/B3.2C Classic Series

According to:

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

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
Managing Director

Date October 2017

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