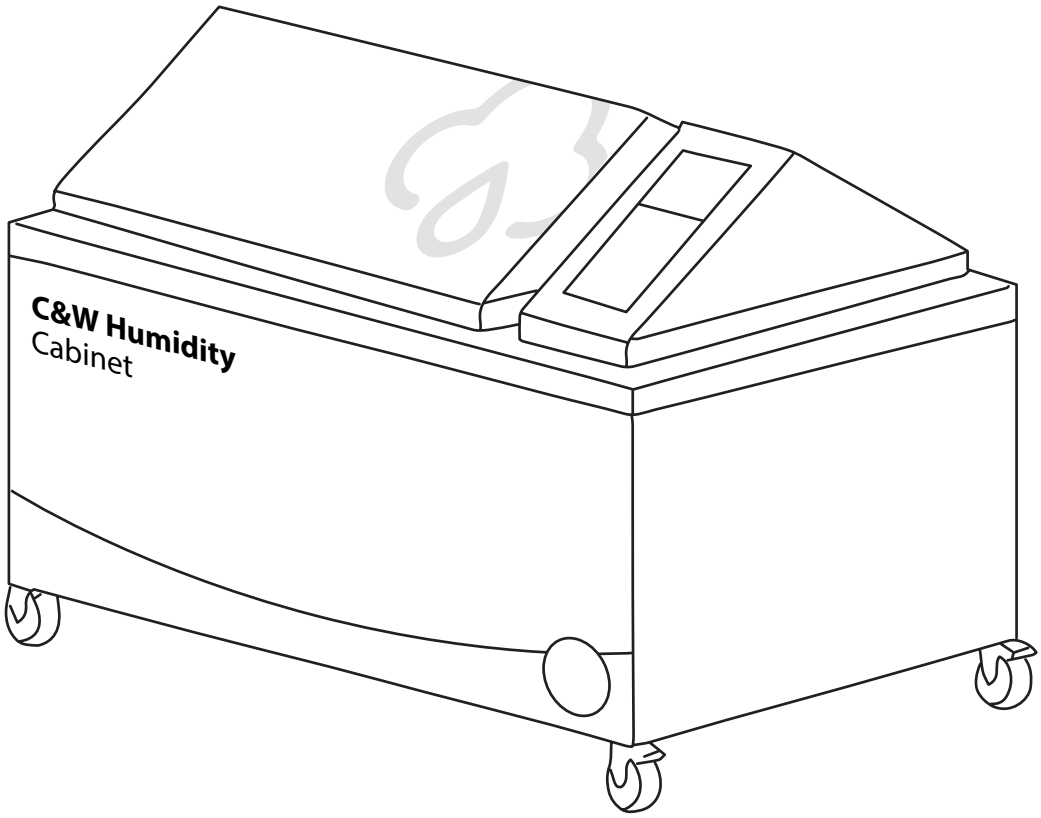

Humidity Cabinet

AB5 (CW1301), AB6 (CW1302), AB7 (CW1304), AB75 (CW1307), AB8 (CW1310), AB9 (CW1320)

Operating Instructions (V2.0 1119)

IMPORTANT! Before taking this instrument in use we strongly advise you to read this manual carefully.

PRODUCT GUARANTEE

C&W Specialist Equipment guarantee the cabinet and components included in its manufacture for a period of one year from the date of despatch from its factory according to the shipping documents subject to the below mentioned conditions and excluding the items listed in condition 5 below. If within the said period any component of the cabinetis found to be defective, C&W Specialist Equipment will (subject to the conditions of the guarantee and excluded items) exchange or repair such a component free of charge to the end customer. In the event of a local distributor or agent representing C&W Specialist Equipment, the agent or distributor will be responsible for the repair or replacement of the faulty component. All labour and travelling costs incurred during the replacement will be absorbed by the agent or distributor. C&W Specialist Equipment will supply the replacement components without charge on condition that the said faulty component is returned to
C&W Specialist Equipment at the expense of the agent) within the period of the guarantee.

This guarantee is to be additional to and does not take away any of the purchaser's rights under the Sale of Goods Act 1979. Neither does this guarantee supersede any guarantee given by the manufacturers whose services will be employed where appropriate.

Conditions of Guarantee

1. The cabinet has not been tampered with or repaired by anyone other than an employee or agent of C&W Specialist Equipment, unless under direct instructions from C&W Specialist Equipment.
2. The cabinet has been installed correctly as per the instructions of C&W Specialist Equipment.
3. The cabinet has not been subject to misuse, or to willful or accidental damage (including damage caused by fire or lightning).
4. The cabinet has been used solely for the purpose for which it was manufactured and kept in and operated to the conditions specified by C&W Specialist Equipment.
5. The guarantee excludes components that have a limited life span and components that are non mechanical or electrical that fail due to third party damage.

- Indicator Lamps
- Fuses
- Peristaltic Pump Tubing
- Light Bulbs
- Salt Solution Filters
- Salt Fog Atomiser (Spray Nozzle)
- All other consumable items.

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DECLARATION OF CONFORMITY CE

C&W Salt Spray Cabinets, Cyclic Salt Spray Cabinets, CCT Cabinets, Humidity Cabinets and Combination Cabinets are manufactured in Capelle aan den IJssel, Molenbaan 19, The Netherlands.

The manufacturer hereby declares under their sole responsibility that the products identified above comply with the protection requirements of the EMC directives with the principle elements of the safety objectives of the low voltage equipment directive and with the essential health and safety requirements of the machinery directive.

Directives Covered:

2004/108/EC	EMC Directive (89/336/EEC)
2006/95/EC	Low Voltage Directive (LVD) (72/23 EEC and 93/68 EEC)
2006/42/EC	Machinery Directive (98/37 EC 2009)
89/655/EEC	Use of Work Equipment Directive (PUWER 98)
Compliance:	By meeting the following standards the equipment is in compliance of the above directives.
EN 61326-1-2006	Electrical Equipment for Measurement and Control and Laboratory use.
EN 61010-1-2001	Safety Requirements Electrical Equipment for Measurement, Control and Laboratory use.
EN 61010-2-010-2003	Particular Requirements for Laboratory Equipment for Heating of Materials.
EN 61010-1-2003	Safety Requirements for Electrical Equipment for Measurement Control and Laboratory use PART 1 : General Requirements.
EN 61000-6-2-2005	Electromagnetic Compatibility (EMC) Generic Standards. Immunity for industrial Environments.

The technical documentation required to demonstrate that the products meet the requirements of the Directives can be made available to the relevant authorities within a reasonable period of time.

The CE mark was first applied in 2007.

Signed: Remco Wever Date: 1 September 2019

Name: Remco Wever Position: Managing Director

NOTES: The attention of the specifier, purchaser, installer or user is drawn to special measures and limitations to use that must be observed when the products are taken into service to maintain compliance with the above directives. Details of special measures and limitations to use are available on request and are contained in product manuals.

1 INTRODUCTION

Our Humidity Cabinets are designed and manufactured to operate to:

i) ASTM 02246-65 ASTM 02247-87
Plus any Humidity Test with a constant temperature between ambient and 55°C at 98% RH.

ii) Vapour Testing to heat a solution to temperature between ambient and 90°C

NOTE:
The maximum operating temperature of this cabinet for standard and non standard tests is 55°C air temperature.

The maximum operating temperature of this cabinet for Vapour Tests is 90°C solution temperature .

2 CONSTRUCTION

2.1 Outer Cabinet

Manufactured in one piece G.R.P., a moulded unit with floor supports, designed with a recess on the front, housing the control panel. An auto-vent cooling fan and inspection panel are fitted to the cabinet.

Colour : Ivory.

2.2 Inner Cabinet

Manufactured from high temperature polyester resins and gel coat, with reinforced walls and base.

Fitted to the base of the cabinet are water baths incorporating heaters, water inlet port, water level control switch and drain.

Fitted high up on the inner wall is the air circulation fan, Pt100 (2 if a recorder is required AB7, 7 or 8 R) and a thermostat for overtemperature protection.

Standard sample racks are supplied with each cabinet. Test panels are held in the slots cut at 20 degrees to the vertical (different angles are available on request). An assortment of test samples may be placed in the cabinet. Special jigs or sample racks may be required to accommodate larger sample up to 50Kg.

Colour : Beige.

2.3 Roof Unit

Manufactured in a polyurethane the roof unit sits in a water trough. The water trough is so designed to prevent the escape of any humid air. (A transparent

Condensation formed during tests resists dripping onto the test samples, by flowing down the apex shape roof unit into the water trough.

The roof unit is raised and lowered with great ease, as the roof unit is held in the raised position by gas springs.

NOTE: Although the water in the water trough is self generated, it is advised that the water is removed on a regular basis and topped up with fresh water.

3 SERVICES

3.1 Electrical

240v 50Hz Single Phase Supply (other voltages available on request).

model	max load	max supply
AB5 (CW1301)	2.2 Kw	13 A
AB6 (CW1302)	2.2 Kw	13 A
AB7 (CW1304)	2.2 Kw	13 A
AB75 (CW1307)	2.2 Kw	13 A
AB8 (CW1310)	4.2 Kw	16 A
AB9 (CW1320)	6.2 Kw	25 A

3.2 Water

Mains water supply 1-4 Bar pressure connected to water inlet (3/8" Hose Adaptor) .

3.3 Drainage

The water baths are drained by a manual drain tap located at the rear back right of the cabinet underneath close to the drain pipe - it is a plastic tap.

An overflow system is plumbed into the base of the cabinet and piped out to the rear of the cabinet. The pipe work should be connected to a waste water drain.

4 OPERATION

Once all the services are connected to the cabinet and switched on, then the water bath will fill with water until a high level is acknowledged by the float switch. No heat is introduced to the chamber until the float switch is closed.

When the water bath has filled to the high level with water, the immersion heaters heat the chamber to the setpoint selected on the temperature controller.

The rate of temperature change and accurate control is achieved by the heat/cool time cycle, programmed into the temperature controller.

The required heat is obtained via the immersion heaters, whilst cooling is the desired response from the auto venting system. Effectively, the auto venting system draws air across the base of the cabinet, circulating around the water bath. The time either heating or cooling is proportioned and is dependent on the distance from the setpoint on the temperature controller.

With the immersion heaters heating the water, humidity is generated, giving a relative humidity of 98% to saturation.

Air inside the chamber is circulated by a single speed fan.

4.1 Operation Time

Providing the cabinet is permanently connected to a water supply with a pressure or head of 1 – 4 Bar then operation will be continuous and unattended.

A satisfactory water level is maintained in the water bath by the automatic filling system.

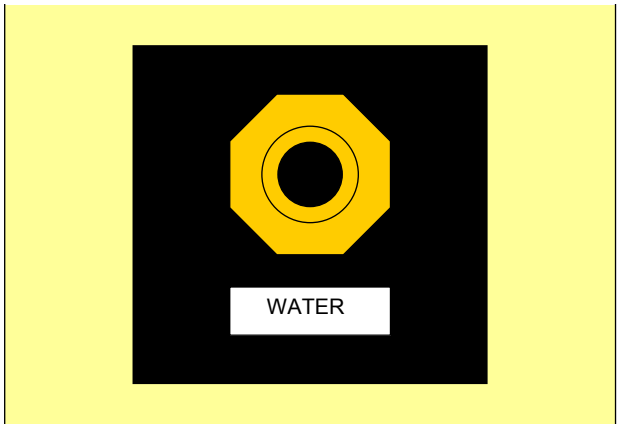
The temperature is accurately controlled by the controller, protected by a programmed alarm setpoint, which breaks the heating circuit, this too breaks the heating circuit in an overtemperature situation.

4.2 Installation

The cabinet should be placed in a convenient position, on a level surface close to your electrical supply, water supply and waste water drain. The cabinet should not be placed in direct sunlight or close to central heating systems as the heating and cooling rates will be effected.

Connect your water supply to the cabinet via the 3/8" fitting. If the pressure of your water supply exceeds 5 Bar (75 p.s.i.) a PRV will need to be fitted.

4.3 Services in panel



4.4 Mains Electricity

Connect the cabinet to your electrical supply:

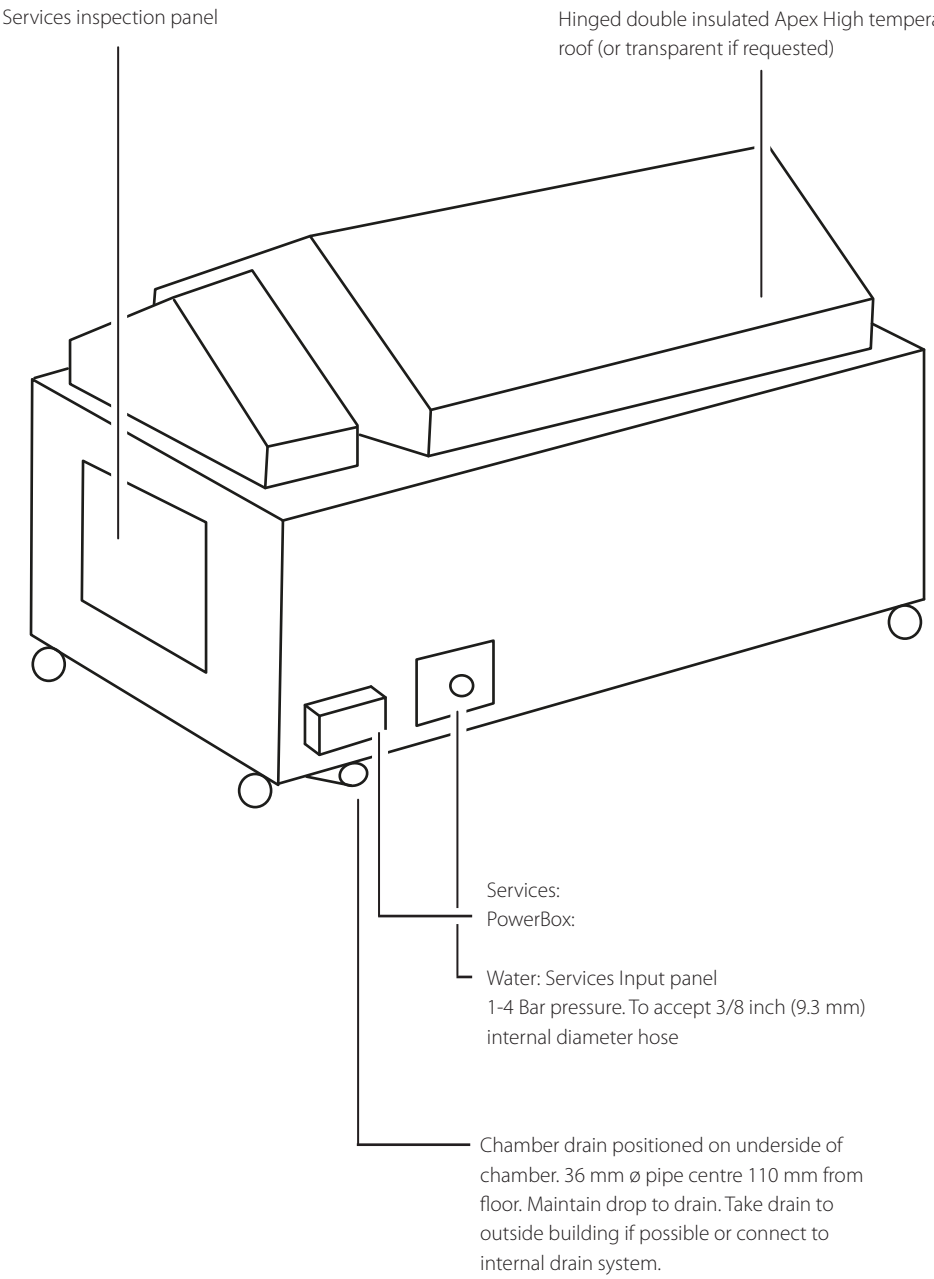
AB5 (CW1301)	13 A socket
AB6 (CW1302)	13 A socket
AB7 (CW1304)	13 A socket
AB75 (CW1307)	16 A socket
AB8(CW1310)	16 A socket
AB9 (CW1320)	30 A wall mounted isolator

4.5 Drains

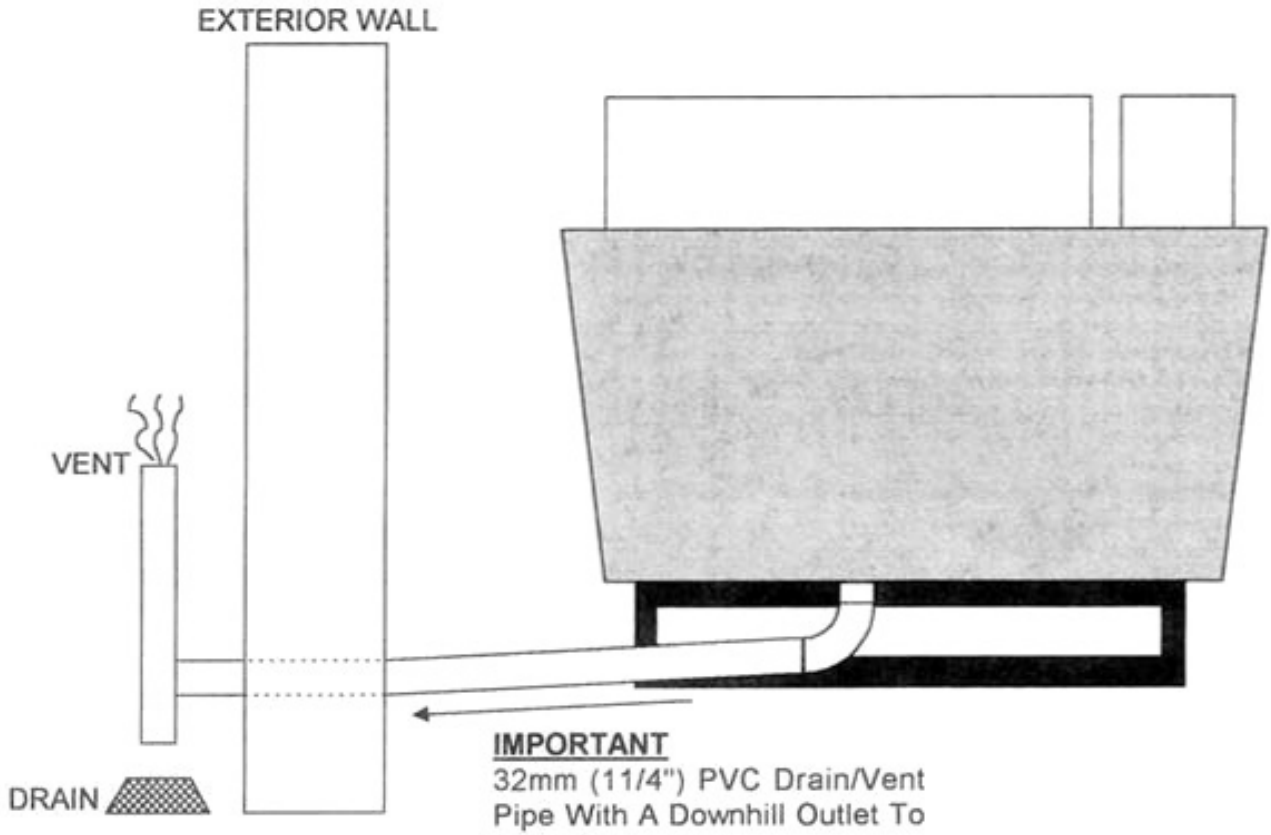
Couple the drain/vent pipe at the rear of the cabinet into your waste water drain system.

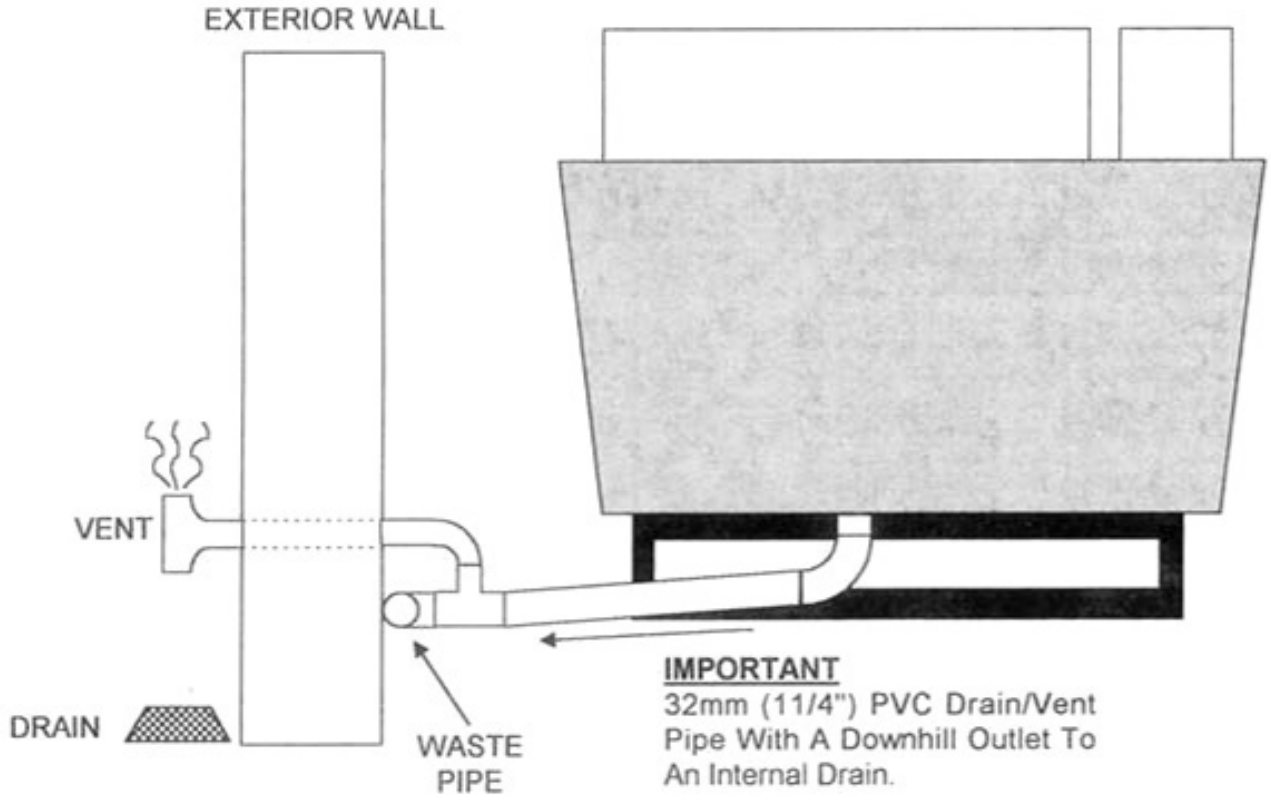
NOTE:
The drain/vent pipe should run downhill into the waste water drain at all times. A blockage may cause any pressure building up inside the chamber to be forced out through the water trough.

4.6 Humidity Cabinet Services

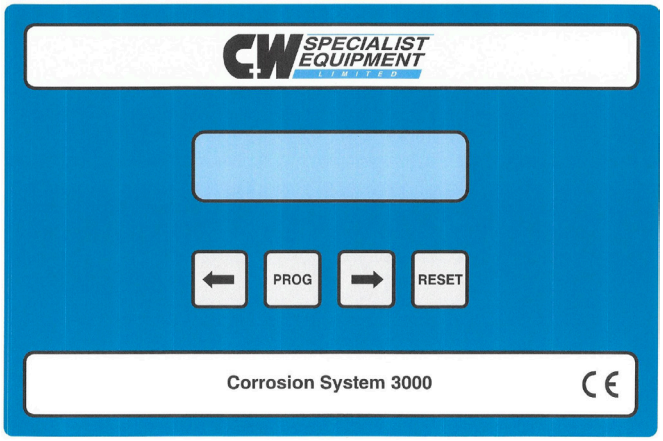


4.7 Methods for drainage





5 PROFILE CONTROLLER



The controller can save 7 programs with a maximum of 20 segments per program.

5.1 To run a program

Before a program can be run one must be selected between 1 and 7 and loaded into the memory.

- After switching on the machine C+W select function appears in the controller window.
- Press either the left or right arrow keys and you will get '1 program' or '2 maintenance and service'.

These screens will only appear if no program is running.

- Select 1 program, and then press the Prog Key. You will then get ' 11 run program'.
- Press the Prog key so that a flashing ✱ appears at the bottom left of the screen.

Note: Parameters on the screen can only be changed when the flashing star appears. To De-activate press program key again.

- Press either of the arrow keys to select between 11 run program and 12 set up new program.
- Select 11 run program and press the Prog key to remove the flashing star.
- Press the arrow keys until load program at Pos 1 appears.
- Press the Prog key until the flashing ✱ appears.

- Press the arrow keys until the desired program number is reached e.g. Pos 3 etc.
- Press the prog key again; the selected program is now loaded into memory.
- Press the arrow keys until Stopped prog to run is showing.
- Press the Prog key to run the program. Running press reset to stop will show
- To stop the program press the Reset key.

With the program running you can press either of the arrow keys to view various screens while the program is running. See appendix 1 for full list.

These screens will only appear if no program is running.

- After switching on Prog interrupt resumes in 10 min will be displayed.
- If you still wish to run this program, let it time out and it will resume after 10 minutes. Alternatively press the reset button and the program will start immediately.
- If you want to run a different program, press the reset key twice and 13 stopped prog to run will be displayed.
- Press the right arrow key until 11 Run program is displayed.
- Press right arrow key until 12 load program at Pos 1 is displayed.
- Press the Prog key until the flashing ✱ appears.
- Press the arrow keys until your desired program is selected, 1to 7.
- Press the Prog key to load.
- Press the right arrow key until 13 stopped prog to run is displayed.
- Press the prog key to run program. Running press reset to stop will be displayed.
- To stop the program press the Reset key.

With the program running you can press either of the arrow keys to view various screens while the program is running.

5.2 Air Purge Function

If you need to interrupt the test for a few minutes it is advisable that air purge is selected to disperse the fog etc. so that it does not carne into your laboratory . A purge can only be selected if a main program is running.

- Press the arrow keys until Purge Off program running appears.
- Press the Prog key until the flashing ✱ appears at the bottom left of the screen.

- Press the arrow keys to switch purge on or off. The Purge will run for a time of 5 minutes.
- To switch off prior to the timed limit press the arrow key until Off appears then the Prog key to return to normal running.

If a program is running and there is a power cut The program is interrupted for 10 minutes, after which the program will continue.

If a long test is running e.g. a cyclic test. ***Do not touch any of the keys*** otherwise the program will restart from the beginning again.

However if you are for example just running a continuous program, you can override the interrupt to resume the test immediately by pressing the Reset key twice followed by the Prog key once and it will continue on the continuous test you are on.

5.3 Programming

New programs cannot be entered while a program is running.

5.4 Example Humidity Program - BS 3900 F2

New programs cannot be entered if a program is running. To enter the above program follow the instructions below.

- Press arrow key until Running reset to stop appears.
- Press reset to reset the program.
- Press arrow key until 11 Run program appears.
- Press the Prog key until the flashing ✱ appears.
- Press arrow key until set up new program appears.
- Press the Prog key to load.
- Press the arrow key until 15 Set up segment appears.
- Press Prog key 151 Set up segment Main 1 will show.
- Press arrow key until 152 Set function appears.
- Press Prog key until the flashing ✱ appears
- Press arrow key until function required is reached, Saturated RH
- Press Prog key to load.
- Press arrow key until 153 Set sub tune appears.
- Press Prog key until the flashing ✱ appears
- Press arrow key until Temp ramp appears.
- Press Prog key to load
- Press arrow key until 154 Set temp appears.
- Press Prog key until the flashing ✱ appears.
- Press arrow key until 48°C is set as the program requires.
- Press Prog key to load.
- Press arrow key until 155 Cycle time appears.
- Press Prog key until the flashing ✱ appears.
- Press arrow key until Continuous is set.
- Press Prog key to load.
- Press arrow key until 156 UV light appears (this can be ignored as this unit does not have this facility).
- Press arrow key until 151 Set up segment appears.
- Press Prog key until the flashing ✱ appears
- Press right arrow key until Main 2 appears.
- Press Prog key to load.
- Press arrow key until 152 Set function appears.
- Press Prog key until the flashing ✱ appears.
- Press arrow key until function required is reached, Saturated RH
- Press Prog key to load.
- Press right arrow key until 153 Set sub function appears.
- Press Prog key until the flashing ✱ appears.
- Press arrow key until Temp ramp appears.
- Press Prog key to load.
- Press arrow key until 154 Set temp appears.
- Press Prog key until the flashing ✱ appears.
- Press arrow key until 42°C is set as the program requires.
- Press Prog key to load.
- Press arrow key until 155 Cycle time appears.
- Press Prog key until the flashing ✱ appears.
- Press arrow key until Continuous is set.
- Press Prog key to load.
- Press arrow key until 156 UV light appears (this can be ignored as this unit does not have this facility).
- Press arrow key until 151 Set up segment appears.
- Press Prog key until the flashing ✱ appears.
- Press right arrow key until Main 3 appears.
- Press Prog key to load.
- Press arrow key until 152 Set function appears.
- Press Prog key until the flashing ✱ appears.
- Press arrow key until Main 3 appears.
- Press Prog key to load.
- Main 3 will be an end segment. The last segment of a program must always be end of test.
- Press right arrow key until 152 Set function appears.
- Press Prog key until the flashing ✱ appears.
- Press arrow key until 152 End of prog appears.
- Press Prog key to load. BS 3900 F2 is now set.

You now will need to save the program in a slot 1 to 7.

- Press the right arrow key until 151 Setup segment main (number of last segment) appears.
- Press the reset key 15 Setup seg will appear.
- Press right arrow key until Save program at pos:2 appears.
- Press Prog key until the flashing ✱ appears
- Press arrow key until desired position is reached. Note: Please remember the position of the program as when saved any programs at that position will be overwritten.
- Press Prog key to load, saving please wait will be displayed tor 10 seconds.
- Press arrow key until set up new program appears.
- Press Prog key until the flashing ✱ appears
- Press arrow key until 11 Run program appears.
- Press Prog key to laad.
- Press arrow key until load program appears.
- Press Prog key until the flashing ✱ appears.
- Press arrow key until load program at pos:2 appears.
- Press Prog key to load.
- Press arrow key until 13 Stopped prog to run appears.
- Press Prog key to run. BS 3900 F2 is now running.

5.5 Example Humidity Program - 42°C Continuous

New programs cannot be entered if a program is running. To enter the above program follow the instructions below.

- Press arrow key until Running reset to stop appears.
- Press reset to reset the program.
- Press arrow key until 11 Run program appears.
- Press the Prog key until the flashing ✱ appears.
- Press arrow key until set up new program appears.
- Press the Prog key to load.
- Press the arrow key until 15 Set up segment appears.
- Press Prog key 151 Set up segment Main 1 will show.
- Press arrow key until 152 Set function appears.
- Press Prog key until the flashing ✱ appears
- Press arrow key until function required is reached, Saturated RH
- Press Prog key to load.
- Press arrow key until 153 Set sub tune appears.
- Press Prog key until the flashing ✱ appears
- Press arrow key until Fixed temp appears.
- Press Prog key to load
- Press arrow key until 154 Set temp appears.
- Press Prog key until the flashing ✱ appears.
- Press arrow key until 42°C is set as the program requires.
- Press Prog key to load.
- Press arrow key until 155 Cycle time appears.
- Press Prog key until the flashing ✱ appears.
- Press arrow key until Continuous is set.
- Press Prog key to load.
- Press arrow key until 156 UV light appears (this can be ignored as this unit does not have this facility).
- Press arrow key until 151 Set up segment appears.
- Press Prog key until the flashing ✱ appears

- Press right arrow key until Main 2 appears.
- Press Prog key to load.
- Press arrow key until 152 Set function appears.
- Press Prog key until the flashing ✱ appears.

- Press arrow key until Main 2 appears.
- Press Prog key to load.
- Main 2 will be an end segment. The last segment of a program must always be end of test.

- Press right arrow key until 152 Set function appears.
- Press Prog key until the flashing ✱ appears.
- Press arrow key until 152 End of prog appears.
- Press Prog key to load. Constant Humidity 42°C is now set. You now will need to save the program in a slot 1 to 7.

- Press the right arrow key until 151Setup segment main (number of last segment) appears.
- Press the reset key 15 Setup seg will appear.
- Press right arrow key until Save program at pos:1appears.
- Press Prog key until the flashing ✱ appears
- Press arrow key until desired position is reached. Note: Please remember the position of the program as when saved any programs at that position will be overwritten.
- Press Prog key to load, saving please wait will be displayed for 10 seconds.
- Press arrow key until set up new program appears.
- Press Prog key until the flashing ✱ appears
- Press arrow key until 11 Run program appears .
- Press Prog key to load.
- Press arrow key until load program appears.
- Press Prog key until the flashing ✱ appears.

- Press arrow key until load program at pos:1 appears.
- Press Prog key to load.
- Press arrow key until 13 Stopped prog to run appears.
- Press Prog key to run.

Constant Humidity 42°C is now running.

5.6 Appendix

131 Running reset to stop
132 Purge off program running (no purge on Humidity Cabinet)
133 Main cycles continuous
134 Sub cycle 1 left (no sub cycle has been entered in our program)
135 Segment M1 SAT RH, Fix Temp
136 Chamber Temp SP (set point) 42°C TMP 22°C (or whatever ambient is when program started)
137 Cycle Time Continuous

5.7 Profile controller trouble shooting

To override Start, Press the Reset Key twice then press the Prog Key.
The light will stop flashing.

Display Fault C+W
Select Function (On screen)

- Press the Right Arrow Key until 1 Program is displayed.
- Press the Prog Key until 11 Set Up New Program is displayed
- Press the Prog Key until a Flashing Star is displayed.
- Press the Right Arrow Key until 11 Run Program is displayed.
- Press the Prog Key until the Flashing Star goes off.
- Press the Right Arrow Key until 12 Load Program at Pos:1 is displayed.
- Press the Prog Key until the Flashing Star is displayed.
- Press the Prog Key again until the Flashing Star goes off.
- Press the Right Arrow Key until 13 Stopped Prog to Run is displayed.
- Press the Prog Key again to start the Program. 131 Running Reset to Stop is displayed.

NOTE: If you have a program problem then note what is displayed and then find what is displayed on the process above and follow the instructions given above from that point.

Example: 11 Run Program is displayed - See No. 4 above and follow the rest of the instructions from there to re-set the program.

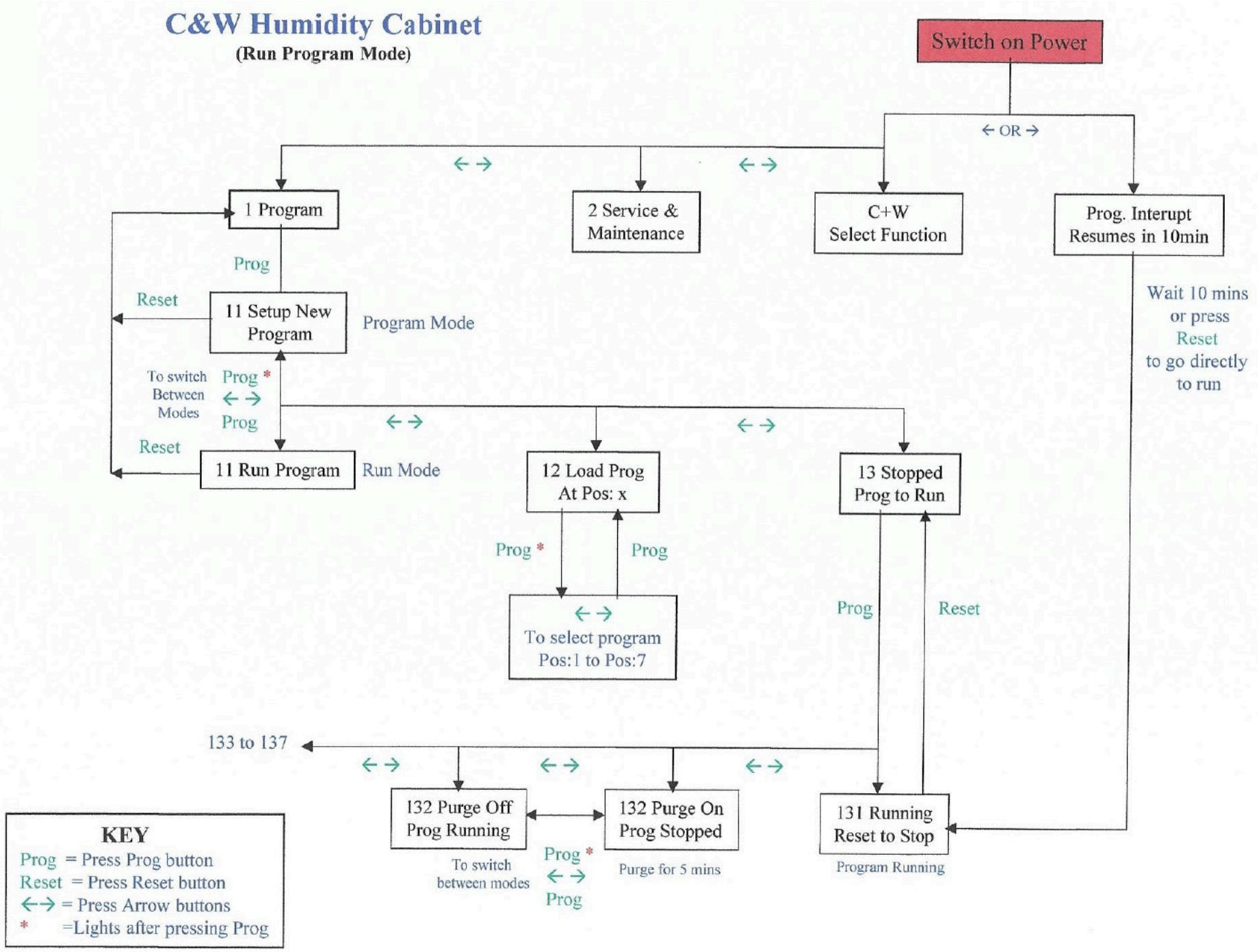
5.7.1 Data Retrieval

When 131 Running Reset to Stop is displayed you can keep pressing the Right Arrow Key to display the temperature and functions set.

5.7.2 Functions

The functions set are numbered from 133 to 140.

133 = Main Cycle Continuous
135 = Segment M1 Fog Fixed Temp
137 = Hum Chamb Temp SP 47°C Temp 14°C
139 = Cycle Time; Continuous
134 = Sub Cycles
136 = Chamber Temp SP 35°C Temp 14°C
138 = Current Function Fog On
140 = Cycles Left


C&W Humidity Cabinet
(Run Program Mode)
Switch on Power
← OR →
1 Program
2 Service & Maintenance
C+W Select Function
Prog. Interupt Resumes in 10min
Wait 10 mins or press Reset to go directly to run
Prog
Reset
11 Setup New Program
Program Mode
To switch Between Modes
Prog *
Prog
Reset
11 Run Program
Run Mode
12 Load Prog At Pos: x
13 Stopped Prog to Run
Prog *
Prog
To select program Pos:1 to Pos:7
Prog
Reset
133 to 137
132 Purge Off Prog Running
132 Purge On Prog Stopped
131 Running Reset to Stop
To switch between modes
Prog *
Prog
Purge for 5 mins
Program Running
KEY
Prog = Press Prog button
Reset = Press Reset button
←→ = Press Arrow buttons
* =Lights after pressing Prog

6 FAULT FINDING

Should your cabinet not heat up to the required temperature , check:

1. That there is sufficient water in the water baths allowing the float switch to close.
2. The setpoint is set at the required temperature.
3. Has the 24V fuse failed (Fuse 1).
4. Is the float switch free moving, ie no calcification

7 OPERATIONAL MAINTENANCE

Before commencing any new tests, replace the water in the water trough with clean water. Using the manual drain tap, drain the water from the water baths.

If you are located in a hard water area it is recommended that the water bath and the float switch in the water bath are cleaned of calcium build up at least once a month, to prevent a failure of the autofill system.

8 GAS SPRINGS - SAFETY REQUIREMENTS

Gas Springs are filled with Nitrogen at very high pressures, and under no circumstances should they be opened, tampered with, or subjected to excessive heat or tension.

Gas Springs should always be treated with respect in the knowledge of the pressure internally.

As a pressurised item, it is recommended that they be returned to the supplier for safe disposal at the end of their useful life.

As the nature of a Gas Spring is to lose its force over a long period of time, it is advisable to periodically check its ability to operate as initially intended, preferably forming part of planned maintenance structure. Replace if, and when, necessary.

8.1 Installation instructions

For standard compression Gas Springs, we advise the use of ball joints to alleviate possible side loads.

Generally fit with piston rod down, preferably within 60 degrees to the vertical, and avoid the spring travelling through a large arc. It is advisable to keep the spring in a single plane of movement. Failure to adhere to this advice may result in reduced life of the Gas Spring.

September 2019

HEALTH AND SAFETY AT WORK ACT – LEGIONELLA REF: ACoP LB

As you are probably aware there are some 34 different species of the bacteria known to man and they can be found in rivers, lakes, streams, mud and soil.

The bacterium Legionella multiples only when conditions are at a suitable level and these are:

1. When water temperatures are between 20° C and 45° C with 37 ° C being the optimum laboratory temperature.
2. When water is contaminated with sediment, sludge, organic matter and algae. Algae are a good source of nutrients and when a bio film is formed it provides a stable habitat for the multiplication of bacterium Legionella.
   (A bio film is a layer of micro organisms contained in a matrix which forms slime on surfaces in contact with water).

Infection is caused by inhaling airborne droplets of particles containing viable Legionella bacteria.

Facts and Conditions Concerning Salt Spray Cabinets and the Growth of Legionella Bacteria

Regarding Salt Spray Cabinets, the conditions within the unit are such that the chances of infection are very low.

1. Legionella bacteria will not grow and multiply in a 5% solution of sodium chloride.
2. Salt Spray Cabinet and Humidification Tower - this should be maintained at 47°C, a temperature outside the range which favours growth of the bacterium.

Facts and Conditions Concerning Humidity Cabinets and the Growth of Legionella Bacteria

Regarding Humidity Cabinets, the conditions within the unit are such that the chances of infection are very low.

1. The water bath in the cabinet is maintained at a level of 65° C and this temperature is considered suitable for sterilisation and one at which Legionella bacteria will not reproduce.
2. The air temperature is maintained by the evaporation of water in the form of humidity and not in a spray of droplet form; consequently the chance of transmission of Legionella bacteria by this condition is very low indeed

Procedures to Prevent the Growth of Legionella Bacteria

1. We recommend most strongly that the Humidity Cabinet and Salt Spray Cabinet undergo regular chlorination with a solution of sodium or calcium hypochlorite 100ml/litre of water.
2. The Salt Spray Cabinet is always opened after a five minute air purge when the salt fog has been removed from the chamber.
3. The Salt Spray Cabinet should never be opened when the spray is being produced.
4. The water trap on both the Humidity Cabinet and Salt Spray Cabinet are kept free of sediment, sludge, scale, organic material and algae by regular chlorination as mentioned in section 1, at intervals of not less than once a month.
5. The salt solution reservoir should be cleaned by chlorination as mentioned in section 1, each time the contents have been used, this is essential to prevent a bio film developing on the walls of the reservoir as algal slime.
6. The salt solution filter should be changed every six to ten weeks to prevent the build up of bacteria and algae colonies.
7. A solution of sodium or calcium hypochlorite (100ml per litre of water) should be pumped through the salt delivery system to prevent the build up of algae and bacteria in areas where stagnation could occur. This should be done at the same time as section 5.

Conclusion

The bacterium Legionella is a commonly occurring organism which is found naturally throughout the world, consequently as an airborne life form it is difficult to eradicate totally and permanently from any environment. With these facts, we as a company can not guarantee that our cabinets will not be susceptible to Legionella bacterium however if our maintenance procedures and operating instructions are followed the chances of infection are greatly reduced.

The company does not accept any liability to third parties using chambers it manufactures in connection to contracting the bacterium Legionella.

On behalf of the company

Remco Wever
Managing Director

9 DISCLAIMER

The right of technical modifications is reserved.

The information given in this manual is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this manual without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. Whilst we endeavor to ensure that all advice we give about the product (whether in this manual or otherwise) is correct we have no control over either the quality or condition of the product or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product or for any loss or damage (other than death or personal injury resulting from our negligence) arising out of the use of the product. The information contained in this manual is liable to modification from time to time in the light of experience and our policy of continuous product development.

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