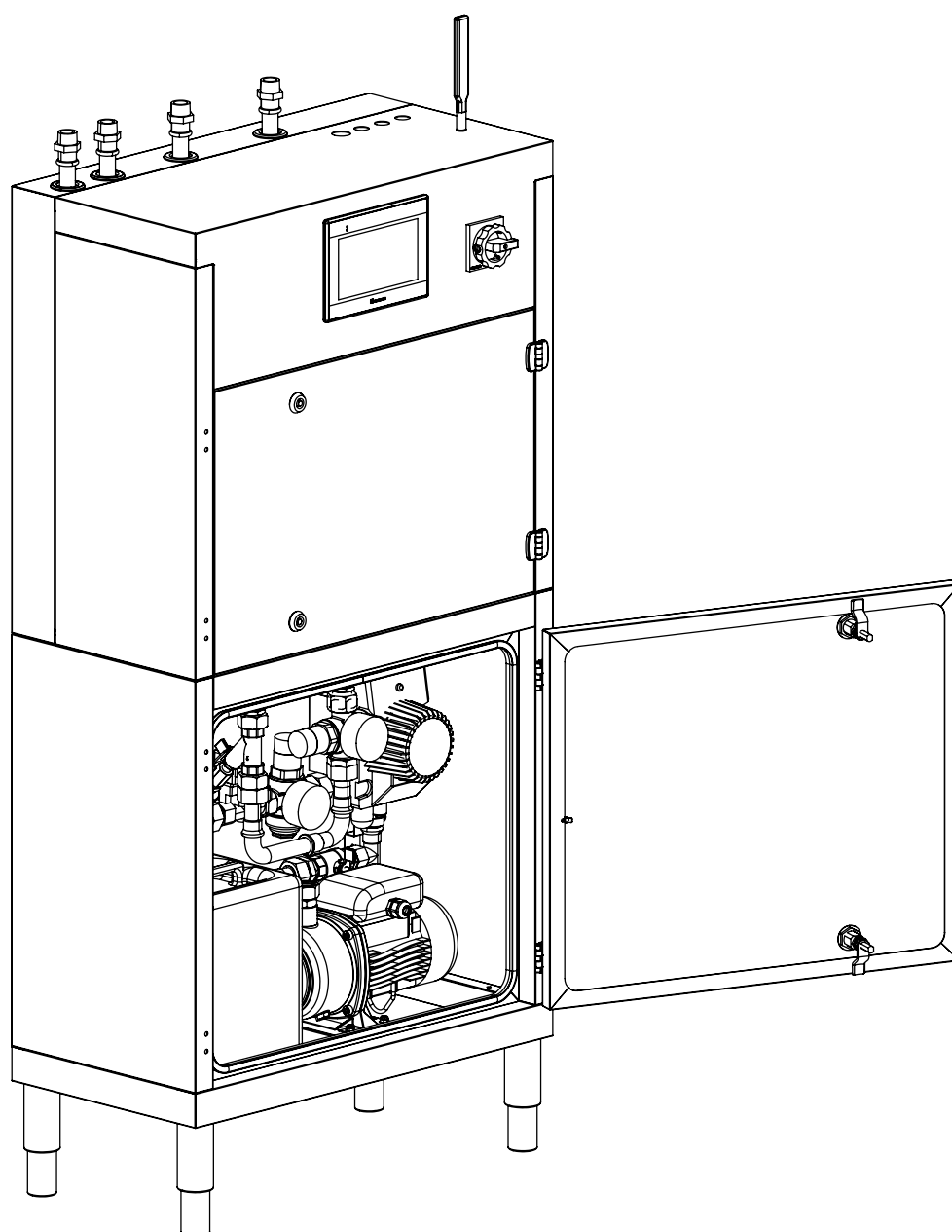


CCW-C

Water Wash Control Cabinet

Installation, Commissioning and Maintenance





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1 User Quick Start

1.1 References, notices, cautions, warnings and dangers

Caution

alerts you to the risk of material damage and tells you how to avoid the problem.

Reference

indicates a reference to an existing guide or documentation.

Warning

indicates a risk of material damage or personal injury.

Notice

indicates important information that can help you make better use of your product.

Danger

indicates a risk of material damage, personal injury, or even of deceased.

1.2 Manufacturer Information

Halton FoodService France












Halton Foodservice SAS, Zone
Technoparc Futura CS80102
62402 Béthune Cedex, France










+33 (0)1.80.51.64.00

1.3 Tools and Hardware

Tools

	Drilling Machine		Perforator		Riveting Tool
	Measuring tools		Grinder		Water level
	Screw driver		Lazer level		Chalk
	Clamp		Hammer		Nibbler
	Mitre saw				

Hardware

	Concrete anchor		Plastic anchor		Nut
	Bolt		Rubber gasket		Nut/bolt
	Flat washer				

Additional

	Unlock		Lock		Magnet
---	--------	---	------	---	--------

1.4 Dimensions and description of the CCW-C control cabinet

The control cabinet subject of this guide is used along with the Water Wash hoods .The hood models concerned can be combined with other technologies such as M.A.R.V.E.L. or the UV-C Capture Ray™ system.

The Hot Water Wash technology is used to automatically wash the filters.

CCW-C - Control cabinet used for Hot Water Wash only

This cabinet is used along with hoods. The hot washing cycles are fully automatic and can be manually overridden when required. Each control cabinet requires a hot water connection. It is equipped with a detergent tank, connected to an automatic dosing system. The high dosing precision eliminates all risks of overdosing, thus contributing to a better environment. The washing cycles are normally carried out with the fan on. The control cabinet checks the state of the fan, the water temperature and detergent level before starting any cycle. The control cabinet can be equipped with a booster pump if the water pressure is not high enough to ensure a good washing efficiency.

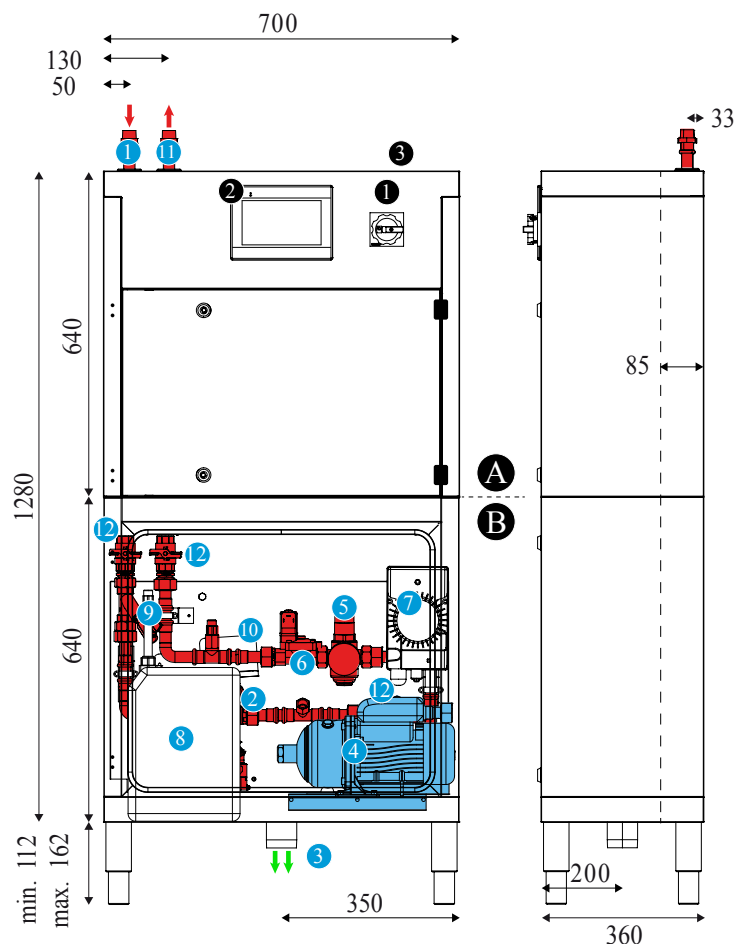
Control cabinet is equipped with an integrated or remote LCD touch screen. It provides an intuitive and efficient user interface. The control system has extended communication capabilities, including the Building Management System (BMS).

A Controls and electrical unit:

- 1 Emergency switch off
- 2 User LCD touch screen (remote on option)
- 3 Electrical connections

B Hydraulic unit:

- 1 Hot water inlet - Male DN 20 - 3/4" connection nipple
- 2 Hot water backflow preventer
- 3 Backflow preventer water outlet Male DN 40 - 1 " ½ connection nipple
- 4 Booster Pump and support (optionnal)
- 5 Hot water pressure reducer
- 6 "Washing" solenoid valve
- 7 Detergent dosing pump
- 8 Detergent tank
- 9 Detergent level probe
- 10 Leak deflector
- 11 Hot water outlet - Male DN 20 - 3/4" connection nipple
- 12 Manual valve



1.5 Hoods and ventilated ceilings with Hot Water Wash only

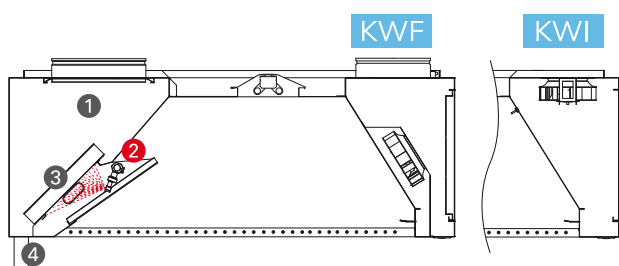
The exhaust plenums of the Water Wash hoods or ventilated ceilings are fitted with manifolds equipped with spraying nozzles. They are removable and their number is optimised in order to lower the water consumption.

Solenoid valves are used to supply the manifolds and nozzles with hot water during the washing cycles steps. Typically, every exhaust plenum is equipped with one valve.

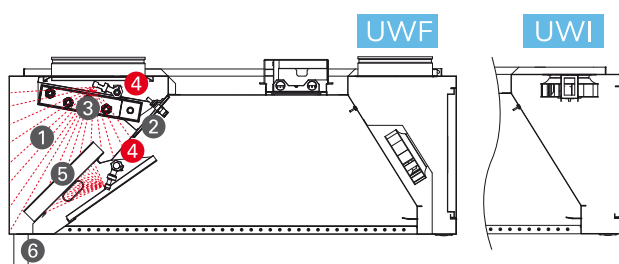
Depending on their length, two exhaust plenums can be

connected to the same valve. All valves are connected and controlled by the control cabinet. The exhaust plenums have to be connected to a collector (with a slope) to evacuate the water during the washing cycles. The use of stainless steel is recommended for the collecting circuit.

The UWF, UWI hoods and KCW-UV ventilated ceiling are also equipped with the Capture Ray™ technology. In that case, the exhaust plenums are equipped with 2 manifolds to clean both the filters and the UV-C tubes.



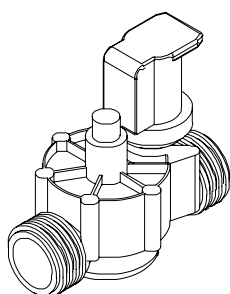
- 1 Exhaust plenum
- 2 Spray manifold (with removable nozzles)
- 3 KSA filters
- 4 Drain pipe



- 1 Exhaust plenum
- 2 UV rack access hatch
- 3 UV lamp rack
- 4 Spray manifolds (with removable nozzles)
- 5 KSA filters
- 6 Drain pipe

1.6 Components description

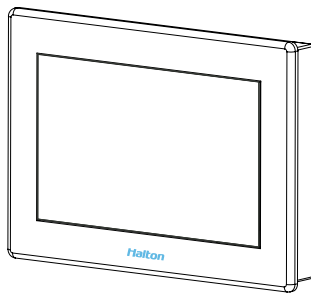
1.6.1 Hot Wash solenoid valve



Hot wash	
Seal material	NBR
Pressure Range	0.5 - 10 bar
Voltage	24 VDC
Power	10W
Nominal diameter	DN20 - 3/4in
Temp. range	-30 / 120°C

Solenoid valves located above the exhaust plenum.

1.6.2 Halton TouchScreen as user interface



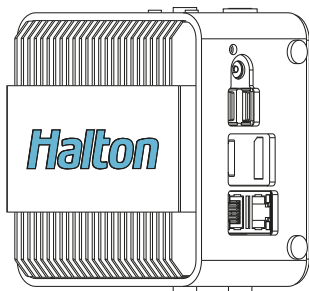
Halton Touch Screen is an advanced user interface which has extended capabilities in terms of display, functions, and communication. It is typically used when there's a request for advanced information about the system(s) operation or when several of the Halton Technologies listed below are combined with each other:

- UV-C Capture Ray™ technology;
- PolluStop emission control units;
- M.A.R.V.E.L. Demand Controlled Ventilation system;
- Cold Mist on Demand technology;
- KGS duct safety system;
- Water Wash technology.

Reference

See the User guide dedicated to the Halton TouchScreen

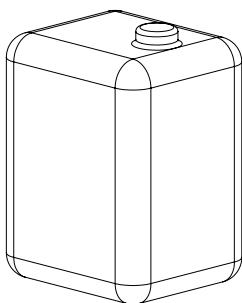
1.6.3 Halton Connect (Option)



Halton Connect IoT platform based on an integrated 4G/LAN gateway that feeds in real-time Halton Connect web Portal with advanced information about your systems.

Status, warnings and alarms, standard and custom data analytics, components lifetime, energy and water savings, forecasts and many other advanced information, all accessible anytime from anywhere, with a visual and intuitive dashboard!

1.6.4 Detergent



Control cabinets use detergent for the hot washing cycles. Halton tested several types of detergent to select the most efficient, considering the type of spraying nozzles, the respect of stainless steel and the presence of a significant amount of grease on the filters and/or exhaust plenums.

Halton recommends the use of the detergent provided together with the control cabinet.

2 Installation

2.1 General

Warranties and liabilities apply to Installation, Commissioning and Maintenance (ICM) of the Products and/or Services covered by this guide.

- Halton warrants that Products and/or Services are provided in conformity with the project specifications and European standards prevailing at the time of production or servicing and are free from defects. This warranty stands for one (1) year after date of commissioning for Products and stands for a period duly specified in the contracts in case of services. Such warranties are solely limited to the repair or replacement of the defective Products or Services and do not apply to minor defects.
- These warranties are given in lieu of any statutory warranty being implied or expressed, or any warranty as regards the adequacy of Products or Services to the purpose for which the Client or its own customers are acquiring the same, or as to any implied or expressed representations made to the Client in the course of negotiations or performance of any order.
- Defects caused by the Client, their agents or representatives which are the result of any fault or wilful damage, negligence, improper warehousing or storage, improper use, alteration or modification of any Product or Service without prior approval of Halton, installation or assembly of Products, to the exception of works made by Halton's servants or agents, or defects due to normal wear and tear, are excluded from the terms of this warranty.
- When defects are found in Products or Services which are designed by third parties, incorporated to, added to or mixed with Halton's Products or Services in order to give a particular feature, technicality, functionality or treatment to the Client's products or to Halton's processes, Halton shall not be liable. Nor will Halton replace any defective Product as a consequence of using or handling the Products or Services in a manner or circumstances or for purposes other than those specified in any order.
- Also, Halton is not liable concerning any recommendations it may give as to the use of the Products or Services in respect of the infringement of patents or other Intellectual property rights held by third parties.

- In no case should Halton be liable for any indirect costs or losses under any circumstances. If found liable on direct losses by a judge or an arbitrator, Halton shall be liable only up to the maximum sum paid by the Client.

Notice

The product/service subject of this guide is intended for commercial kitchens or food industries. Any other scope is to be considered improper, unless confirmed to the contrary by one of Halton customer services.

Notice

It is the responsibility of the contractor to inform Halton about potential specific requirements or specific local codes. If questions or complications should arise during the service proceedings or the installation, commissioning or use of the product subject of this guide, that cannot be solved using the accompanying instructions, please contact one of our customer services or local representatives.

Notice

Whatever the product(s) installed or service carried out, it is the responsibility of the ordering party to check if there has been any modification of the kitchen layout and ductwork, or of the cooking appliances properties compared to the information transmitted to Halton during the project phase and used to design the system(s)/service(s).

Notice

It is the responsibility of the contractor to check the product(s) installation height, service access and other dimension limitations or recommendations, applicable to the cooking appliances and/or systems covered.

Notice

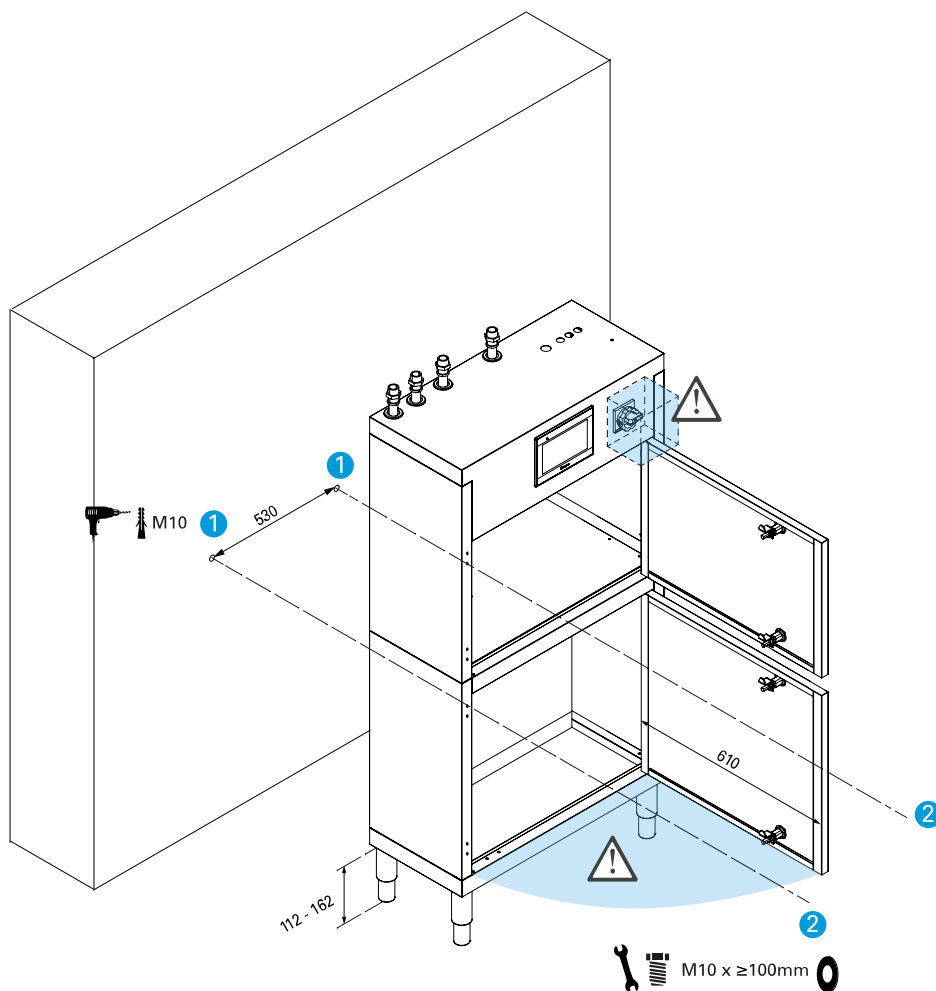
If this product is not installed/maintained directly by a Halton team, it has to be positioned, installed, wired, commissioned, used and maintained according to Halton recommendations, state-of-the-art and all applicable codes.

2.2 Installation of the Control cabinet

2.2.1 Fixing of the Water Wash control cabinet

⚠ Environmental conditions

To prevent condensation inside the control cabinet, it shall be installed in a dry and tempered room. Special attention has also to be given to the insulation of the walls the cabinet is fixed on. It is not recommended to install it inside a dishwashing area.

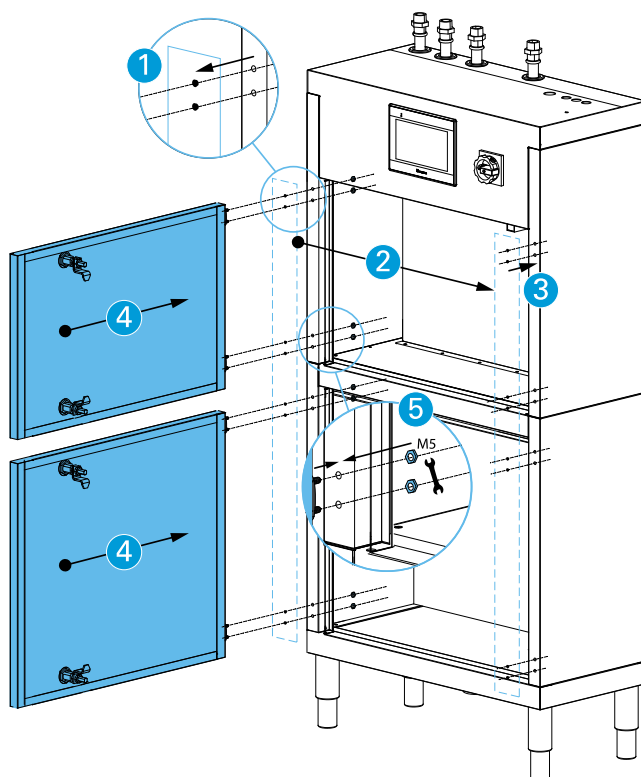
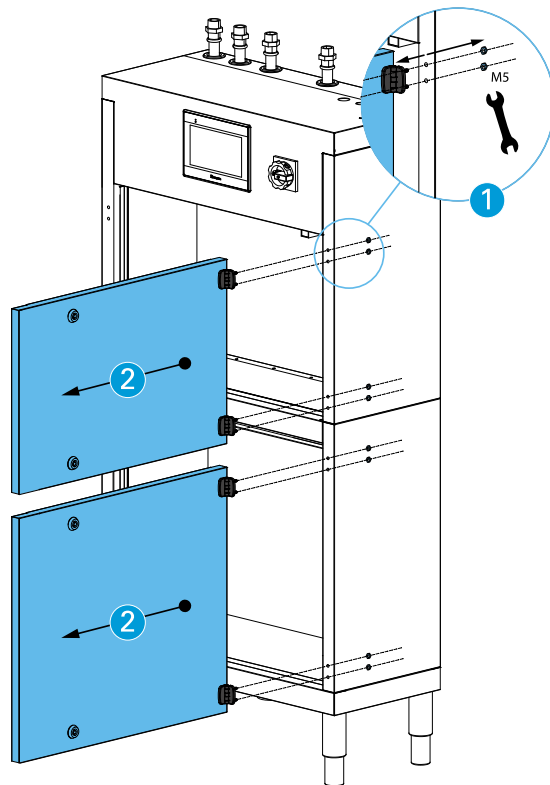


⚠ Warning

HEAVY! Do not lift objects over 18kg alone. Use a lift or seek assistance.



2.2.2 Change the door opening direction



2.3 Preliminary Instructions

Storage of the products before installation

The products must be stored away from bad weather, moisture, marine salt or abnormal temperature to avoid degrading the quality of the materials. Exposure to direct sun light is also inadvisable. It leads to an alteration of the protecting plastic films. They are then particularly difficult to remove.

Unpacking of the products

Halton uses several types of packaging. Whatever the type, special care must be given to the unpacking. Without being limitative:

- When applicable, remove the external protective or heat-shrinkable film, taking care not to scratch the outer surfaces (use scissors or a blade if necessary).
- Remove cautiously the general protections made of wood or cardboard as well as specific protections such as cardboard angles.
- Unless contrary instruction in the installation chapter, products have to remain on their pallet till they are placed in their installation location. When protection films are used on non-visible sides, they have to be removed before installation. The films on the other protected surfaces have to be removed after installation and commissioning operations of the products are completed, just before the final handover. Packaging materials that can be recycled must be disposed off in conformity with current local safety regulations.

Disassembly, storage and waste

Caution

The disassembly operations must be carried out by qualified personnel.

The specific requirements enforced by the legislation and local authorities of each country where the products have to be disassembled must be observed. Temporary storage of special waste is permitted, but only if the final purpose is the definitive disposal by treatment and/or final collection.

Disposal of plastics

Recycling or disposal of plastic waste must be carried out in accordance with the law or regulations of each country.

Recycling of wood

Recycling of wood waste must be carried out in accordance with the law or regulations of each country.

Recycling of cardboard

Recycling of cardboard waste must be carried out in accordance with the law or regulations of each country.

Disposal of electronic and other components

Any electronic and other components of Halton's products and systems should be assessed for the most suitable recycling route in accordance with WEEE provisions.

Keep Environment Clean!

2.4 Wiring and connections

2.4.1 Requirements

Notice

To wire and connect the Water Wash control cabinet, please refer to the operating diagrams which follow and/or project specific diagrams delivered by Halton's customer service.

Hot Water Characteristics (Wash)	
Min temperature	45°C
Max temperature	55°C
Max hardness	8°DH (15°TH)
Cabinet capacity	30 l/mn max
Cabinet pressure loss	1,5 bar @ 30 l/mn
Water flow per nozzle:	
Water Wash hoods and ceilings	1,22 l/mn @ 3 bar
CMW hoods (Hot Wash + cold mist)	3,1 l/mn @ 1,4 bar

Hydraulic distribution pipework	
Material	CNS 1.4301
CCW water outlets	Male DN 20
CCW Water inlets	Male DN 20

Solenoid valves:	
Acceptable pressure	10 bars
Hotwash:	
Control voltage	24 VDC by cabinet

Control cabinet power supply:	
600W @ 230 VAC/50Hz	

2.4.2 Principles of hydraulic connections

2.4.2.1 Water supply

Notice

Water inputs and outputs are marked directly on the control cabinet by following stickers:



Hot water input

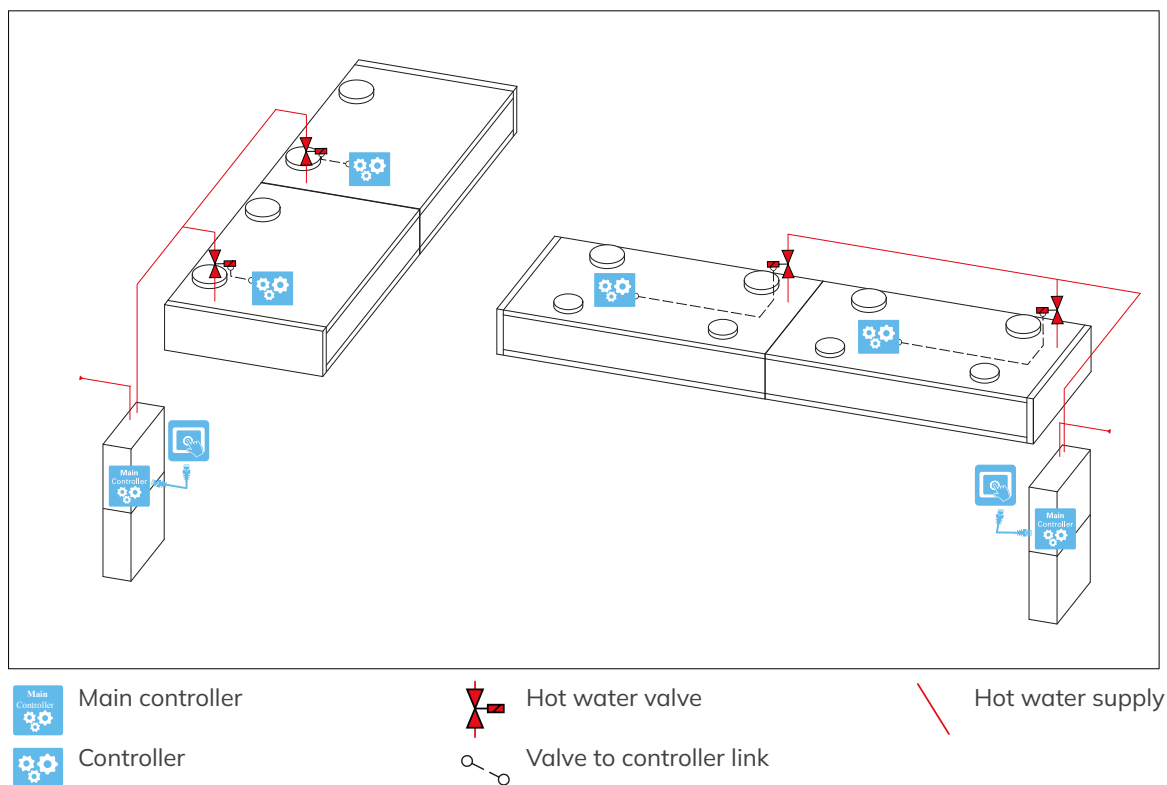


Hot water output

Caution

Hot Water!! Be careful and wear protective equipment when working on hot water circuits

Hot Wash only



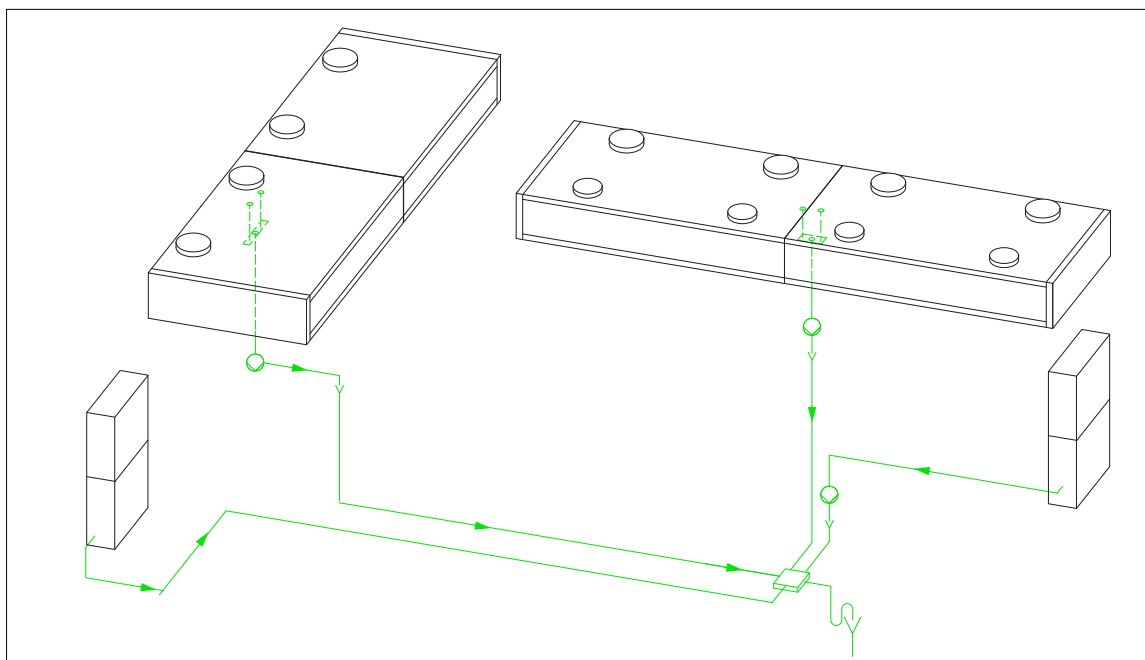
2.4.2.2 Wasted water

⚠ Caution

Location of the hoods or ceiling waste water drain is defined before the manufacturing, it cant be changed afterward.

ℹ Notice

All pipes and plumbing material to be provided and installed by a third party



Sewage lift pump (optionnal)



Kitchen drainage system equipped a grease trap



Connection to the building's or city's waste water system

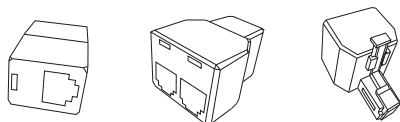
2.4.3 Wiring principles

2.4.3.1 Communication line controller

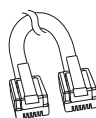
⚠ Caution

A wrong type of cable or connector can irreversibly damage the controllers. It is highly recommended to check them before use.

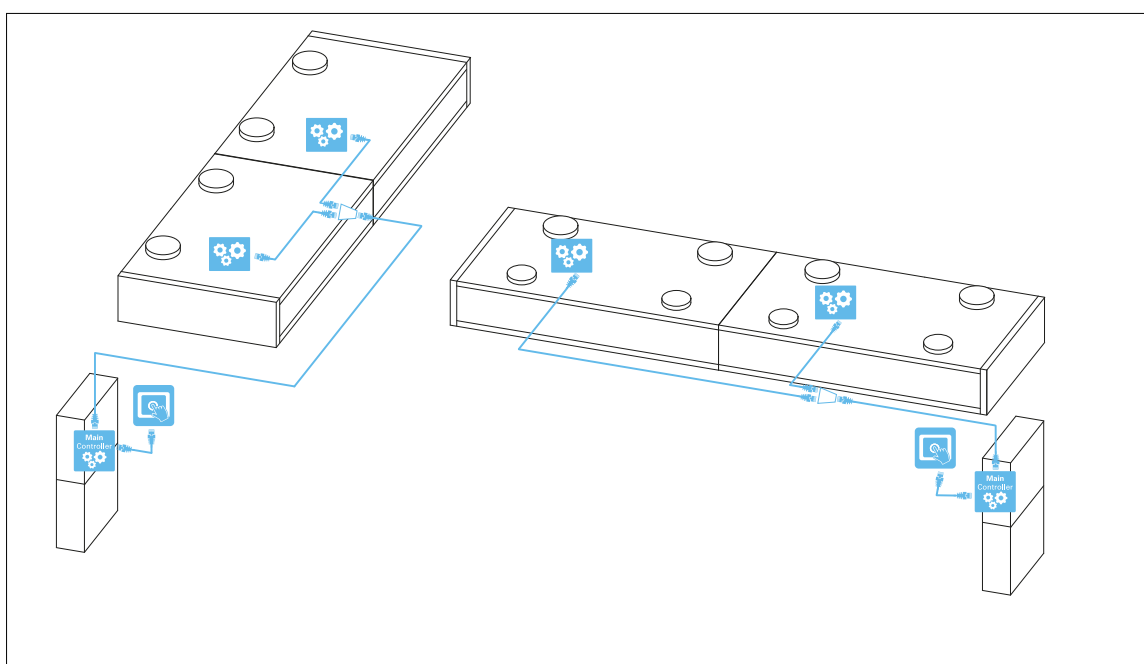
Communication connectors



Communication cables



- RJ12-6-4 with crossed connector type
- RS485 maximum length : 200m



Main controller



Communication cables



Splitter



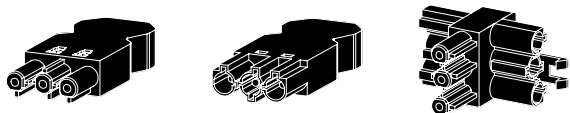
Controller

2.4.3.2 Power supply for the control cabinets and the hoods/ceilings controllers

Danger

Work on electrical systems and equipment may only be carried out by authorised and trained, qualified electrical engineers.

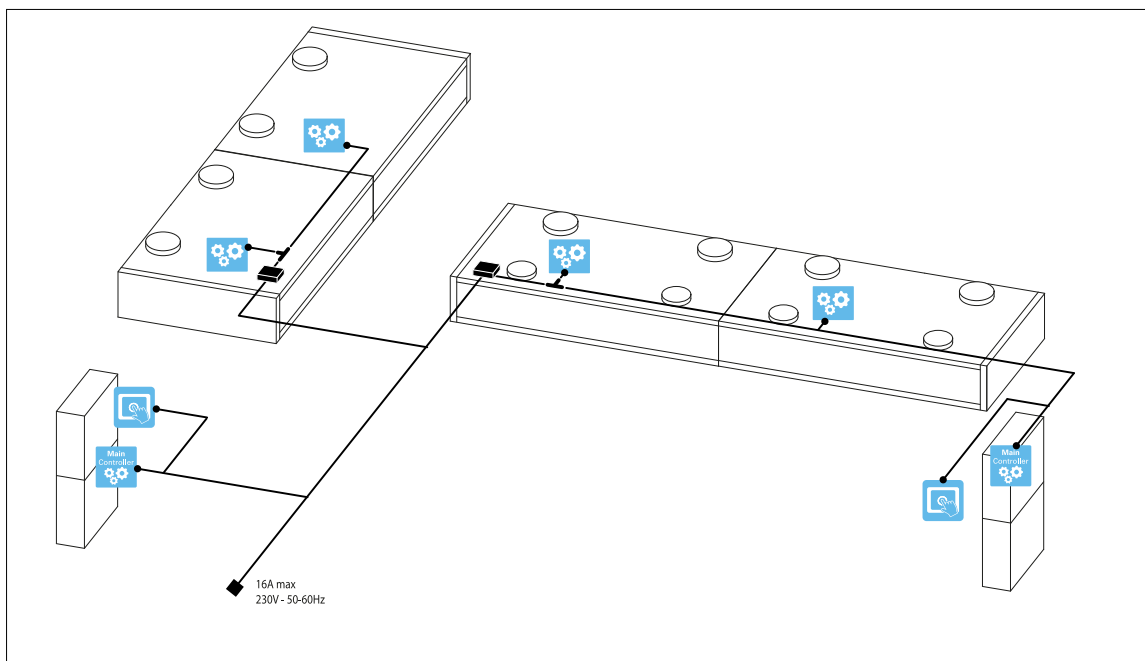
Ensure that the power supply has been turned off.



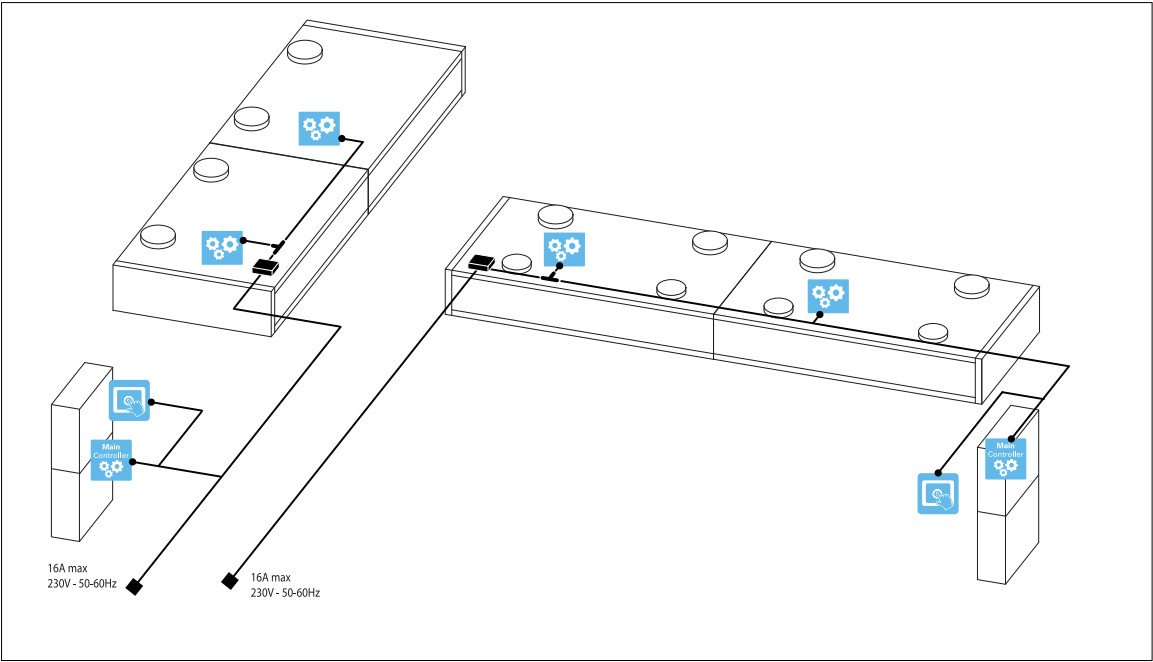
Each control system is linked to the power supply by means of black 'wieland' connectors and comes with female lead.


Maximum capacity : 16 A

Power supply - 1 line



Power supply - 2 lines

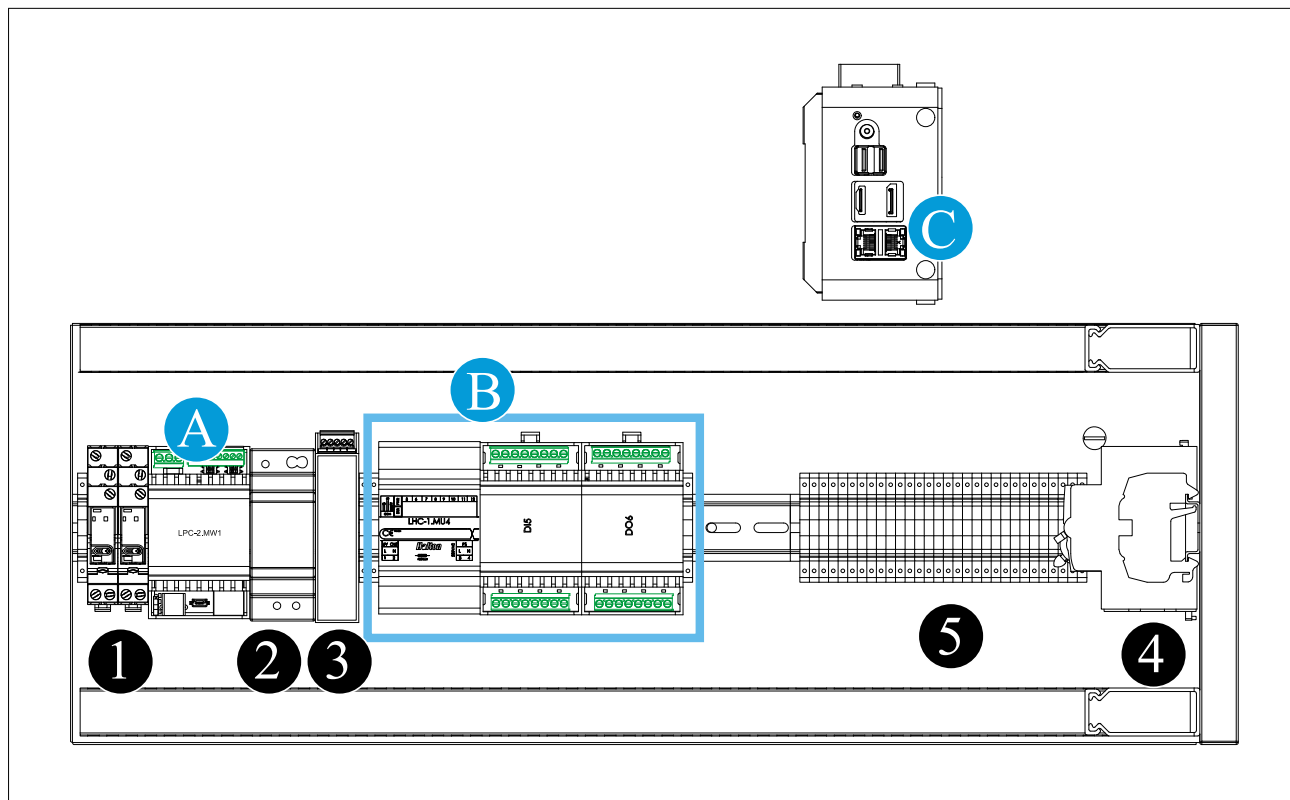










-  Main controller
-  Controller
-  Black wieland T
-  Junction box

2.4.3.3 Control Cabinet's electrical unit - Overview

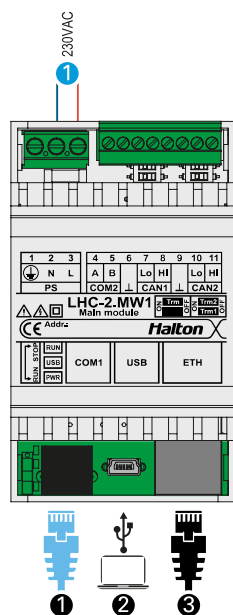
Notice

The CCW-C control cabinet range controls by default the wash/mist solenoid valves through the exhaust devices' communication network.



-  Main controller
 -  WaterWash digital I/O
 -  Halton Connect 4G/LAN gateway
 -  Relays for detergent and booster pumps
 -  24 VDC power supply
 -  LAN switch
 -  Circuit breakers (general, detergent pump, booster pump)
 -  Terminal blocks
- X1: Main power supply

2.4.3.4 Main controller



Connection to be done on site

LHC-2.MW1 - Main Module

- 1 Power supply
PS L-N 115/230VAC 50/60Hz
X1 1-2-PE

- 1 Communication - RS485
COM1 0-5V

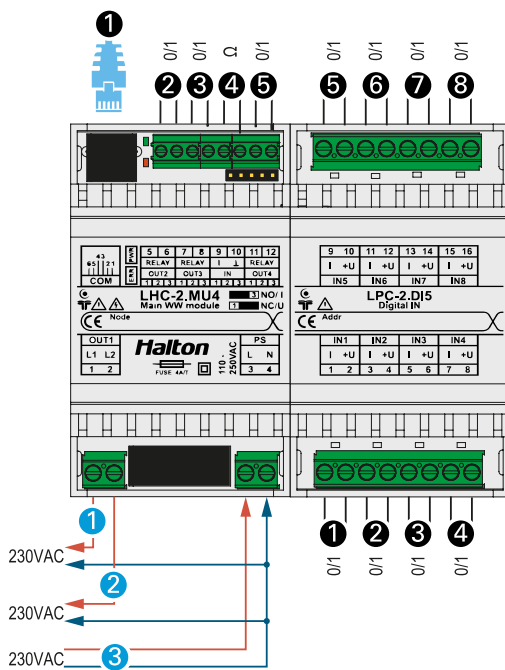
- 2 USB - Laptop
USB

- 3 Ethernet
ETH

Notice

When the Waterwash and Cold mist technologies are combined with other Halton technologies, the main controller can be completed with digital I/O modules. Refer to the ICMs specific to other technologies or specific wiring diagrams.

2.4.3.5 WaterWash digital I/O



Connection to be done on site

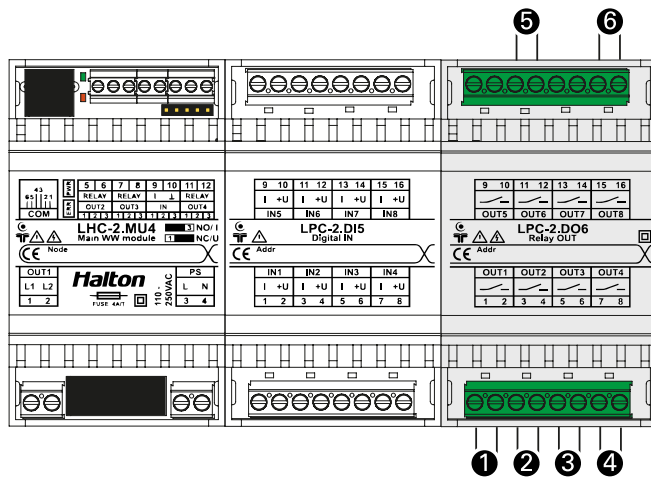
LHC-2.MU4 - Main WW Module

- | | | |
|--|---|--|
| <p>1 Booster pump
OUT1 L1 100-253VAC/4A out
internal fuse protection 4A/T
X0 7-8-PE</p> <p>2 Detergent pump
OUT1 L2 100-253VAC/4A out
internal fuse protection 4A/T
X0 5-6-PE</p> <p>3 Power supply
PS L-N 110-250VAC 50/60Hz
X1 1-2-PE</p> | <p>1 Com
OUT2 5-6 110-253VAC 1A out
Break contact(NO/NC) without
internal fuse protection</p> <p>3 Water valve
OUT3 7-8 110-253VAC 1A out
Break contact(NO/NC) without
internal fuse protection
X0 11-12-PE</p> | <p>4 Water temperature
IN 9-10 0-20mA 0-10V
Analog Input Rin=250ohms
Rin=10Kohms
X0 13-14</p> <p>5 Exhaust Fan On signal - Wash request
OUT4 11-12 110-253VAC 1A out
Break contact(NO/NC) without
internal fuse protection
On module</p> |
|--|---|--|

LPC-2.DI5 - Digital In

- | | | |
|---|---|--|
| <p>1 Fire Alarm Option
IN1 1-2 24VDC - 10mA
Bridge / On module</p> <p>2 Emergency Stop Option
IN2 3-4 24VDC - 10mA
Bridge / On module</p> <p>3 Detergent level Alarm
IN3 5-6 24VDC - 10mA
X0 15-16</p> | <p>4 Cold Water Pressure
IN4 7-8 24VDC - 10mA
On module</p> <p>5 Exhaust VFD feedback
IN5 9-10 24VDC - 10mA
Bridge</p> <p>6 Ext. Wash start
IN6 11-12 24VDC - 10mA
On module</p> | <p>7 Wash permit
IN7 13-14 24VDC - 10mA
On module</p> <p>8 Hot Water Pressure
IN8 15-16 24VDC - 10mA
On module</p> |
|---|---|--|

Additional outputs



LPC-2.D06 - Relay OUT

- | | |
|--|--|
| <p>1 Water Temperature Alarm
OUT1 1-2
On module</p> <p>2 Cold Water pressure Alarm
OUT2 3-4
On module</p> <p>3 Detergent level Alarm
OUT3 5-6
X0 17-18</p> | <p>4 Hot Water pressure Alarm
OUT4 7-8
On module</p> <p>5 Fan request
OUT6 11-12
On module</p> <p>6 Common Alarm
OUT8 15-16
X0 19-20</p> |
|--|--|

3 Commissioning

3.1 Prerequisite for commissioning by Halton

Notice

It is highly recommended to entrust the commissioning of the product/technology subject of this guide to a Halton team or an authorized Halton partner, especially when combined with other Halton products or technologies.

The main steps of a commissioning generally consist of:

- Checking that the products/technologies installation matches all Halton's requirements and especially the wiring instructions.
- Implementing the settings required to adapt all Halton products, technologies and controls - depending on the configuration of the equipment - to their "environment".

Halton team scope of supply, as well as the prerequisites (what must be done or checked before starting the commissioning) are defined hereafter.

General prerequisite

- Check that the components of the products/ technologies and - if applicable - its controls are in a good condition after transportation, possible storage and installation. Check that the installation of every single component fully matches Halton requirements.
- Check that the installation of every single component fully matches Halton requirements.
- If the product/technology subject of this guide are combined with other Halton product(s) or technology(ies), all relating general and specific recommendations about their installation and wiring have to be fully completed and checked. These additional product(s)/technology(ies) have to be fully operational, whether Halton commissioning mission covers them or not.
- If some components are visibly broken or missing, they must be ordered and installed before commissioning. Ordering spares during the commissioning inevitably delays its implementation.

Electrical and network prerequisites

- All Halton electrical components should be connected to the power supply(ies) and they have to be operational. All mandatory electrical protection devices required by the European or local codes, and not installed by Halton, have to be also checked.
- The communication network between the control systems - if applicable - should be also fully built.

General AHUs and ductwork prerequisites

- When AHUs are not delivered by Halton, at least the fan(s) have to be fully operational.
- When AHUs are delivered by Halton, unless they are subject to another commissioning, all the other fluids required for the cooling and heating devices or the filtration - in addition to electricity - have to be available and the relating production systems operational.
- Ductwork has to be fully completed and access hatches have all to be checked and closed.

Hydraulic prerequisites

- If applicable, all water and drainage circuits, whether hot or cold, whether reserved for Halton AHUs or other Halton products/technologies, have to be fully completed and match Halton specifications as well as European or local standards. The flow, temperature and pressure regimes have also to fully match Halton specifications.

- If the product/technology subject of this guide are combined with other Halton products/technologies, the wirings and the communication network extension - if applicable - have to be completed according to Halton requirements.

During the commissioning

- Halton team requires a permanent technical support from all the contractor(s) involved in the different parts of the installation.
- Halton commissioning team is not authorized to modify the connections (unless done by Halton). If some connections have to be modified or created (if they are missing), they will have to be modified or created by the appropriate contractor(s). If some communication features between Halton systems and the BMS are required, a technical representative of the BMS supplier should be also present.
- If the installation is not ready to be commissioned at the arrival of Halton commissioning team, Halton reserves the right to invoice for a return visit which could be needed.
- At the end of the commissioning process, training will be organised for the technical department of the building and/or the maintenance operator at the same time.

After the commissioning

In the event of downtime, however long, some connections may be temporarily disabled for safety reasons. Before restarting the system, it may be necessary to check that all the equipment is operational and that no connections have been damaged during the downtime.

In case of downtime and unless contrary specification in the commissioning service description, any required control visit by a Halton team will be the subject of a specific quotation.

3.2 Commissioning phases

Warning

Before starting the system, the operating and maintenance instructions must be read and understood. Not doing so may result in potentially dangerous operation. All operations shall be carried out by Halton or approved partner.

Warning

Work on electrical systems and equipment must be carried out by authorised and trained electrical engineers.

Phases

- A Pipework purge**
After having checked that all prerequisites are met, the pipework has to be bled following the instructions which follow.
- B Detergent pump bleed**
The detergent pump has also to be bled following the instructions which follow.
- C Setting of the detergent injection rate**
Setting instructions detailed which follow.
- D Hot washing schedules**
The washing schedules have to be set with the Touch Screen based on the instructions developed which follow.
- E General testing**
Every washing cycle has to be tested before handover

Notice:

Although our customer services can predetermine the settings of the control cabinets, they have systematically to be confirmed with real conditions tests. A second commissioning phase has to be organised if the cooking appliances are not operational or if real condition tests can't be carried out during the commissioning phase.

Notice:

A second commissioning phase has to be organised if the cooking appliances are not operational or if real condition tests can't be carried out during the commissioning phase.

3.3 Fill the detergent tank

Reference

An alarm is displayed on the Halton TouchScreen when the detergent tank needs to be refilled

Reference

See the User guide dedicated to the Halton TouchScreen

Danger

Work on electrical systems and equipment may only be carried out by authorised and trained, qualified electrical engineers.

Ensure that the power supply has been turned off.



The detergent is classified as corrosive. All precautions must be taken during handling. Bad selection or concentration of the detergent can lead to irreversible damages. If any doubt, contact Halton to validate the chosen detergent.

Warning

It is highly recommended to wear glasses and gloves while manipulating detergents

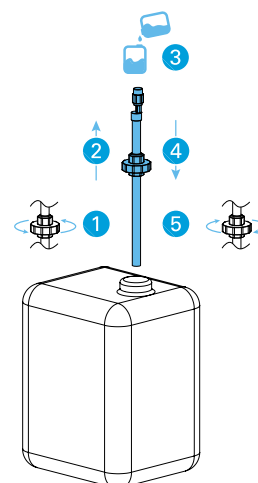
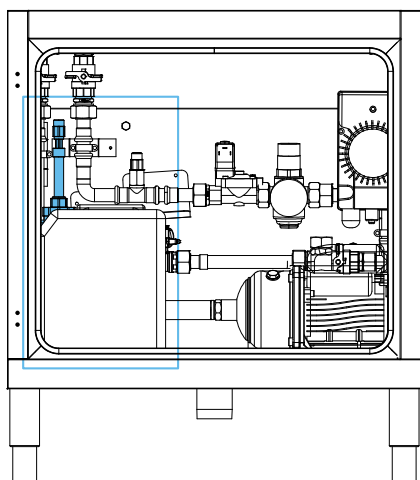
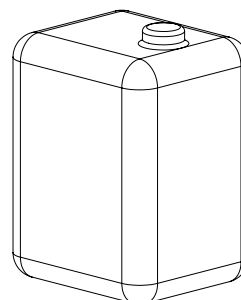


Notice

We strongly recommended to use and re-fill the detergent tank delivered together with the control cabinet. It is sized to fit the dedicated space in the control cabinet.

Warning

In case of contact with eyes, rinse thoroughly and contact medical services as soon as possible.



3.4 Pipework purge

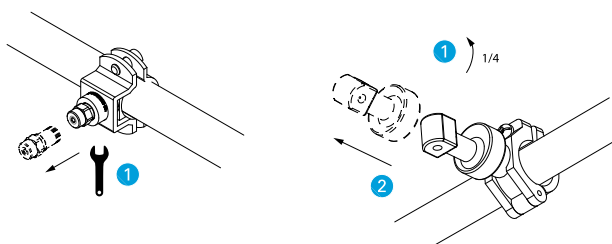
Notice

After installation, the pipework has to be purged of all solid particulate to prevent the spray nozzles from blocking.

The spray manifolds are equipped with stainless steel nozzles that need to remain in place.

Hot water circuit bleeding

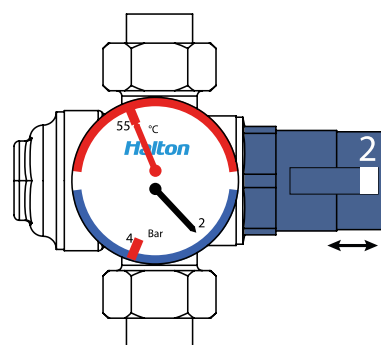
A



Remove the head of all nozzles. The nozzles' body has to be kept in place.

B

Reduce the hot water pressure to 2.0 bar by means of the pressure reducer inside the control cabinet. If the pressure is not reduced when the manifolds' drains are opened, the collecting channel(s) can run over due to high water flow.



C

FOR EVERY hot water solenoid valve, set to zero the "Washing time" and "Soaking time". Set the rinsing time to 1 mn and start a manual washing cycle.

Reference

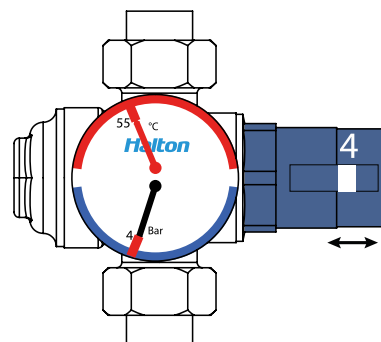
See the User guide dedicated to the Halton TouchScreen

D

Reinstall the head of all nozzles.

E

Set the hot water pressure reducer to get a minimum of 4 bar at the furthest nozzle (the more distant from the control cabinet).



3.5 Detergent pump bleed

3.5.1 Detergent pump bleed - Elados model

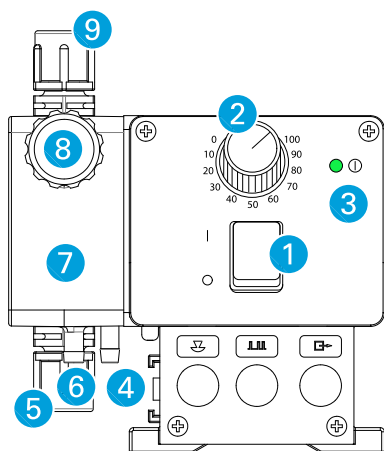


The dosing pump is installed directly inside the control cabinet. It adds a specific dose of detergent directly in the water circuit through a special injection valve. Once adjusted, the pump requires no action or external control.

Notice

The high dosing precision eliminates all risks of overdosing, thus reducing the environmental impact.

Bleeding of Halton's detergent dosing pump



- 1 On/Off switch
- 2 Injection rate setting knob
- 3 Green operation LED (ready for use)
- 4 Run off in case of diaphragm breakage
- 5 Detergent inlet
- 6 Detergent purge outlet (not connected)
- 7 Dosing head
- 8 Detergent purge knob (opens/closes the purge circuit)
- 9 Detergent outlet (to injection valve)

Bleeding procedure

Warning

Caution is required during bleeding to prevent any contact of the detergent with the skin that can cause irritation. Refer to the safety datasheet of the detergent.

- A Check the water inlet and outlet valves of the control cabinet are opened.
- B Switch on the dosing pump 1.
- C Set the detergent injection rate to 100% with the setting knob 2.
- D Open the detergent purge circuit by turning the knob 8 approximately 1 turn left. Leave it open.
- E Activate the detergent dosing by launching a manual washing cycle from the Touch Screen (see chapter hereafter). When the detergent exits the detergent purge outlet 6 without air bubbles, the washing cycle can be stopped.
- F Close the purge circuit by turning right the knob 8.
- G Set back the injection rate to the desired level 2.

3.5.2 Detergent pump bleed - Teknaevo

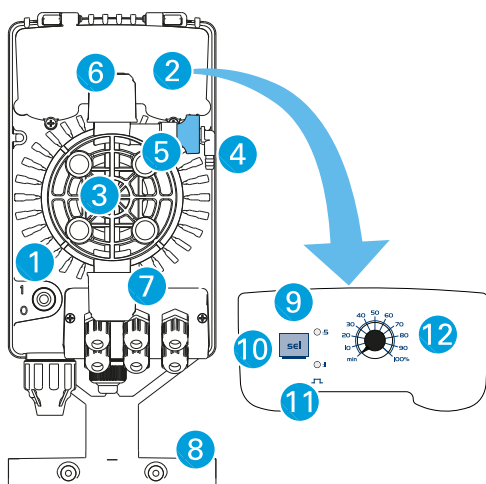


The electrical diaphragm dosing pump is installed directly inside the control cabinet. It adds a specific dose of detergent directly in the water circuit through a special injection valve. Once adjusted, the pump requires no action or external control.

Notice

The high dosing precision eliminates all risks of overdosing, thus reducing the environmental impact.

Bleeding of Halton's detergent dosing pump



- 1 On/Off switch
- 2 Regulation area
- 3 Dosing Head
- 4 Priming valve
- 5 Primng valve knob
- 6 Delivery connector
- 7 Suction connector
- 8 Base support
- 9 Maximum speed (:5) and dosage impulse LED
- 10 Maximum frequency selector
- 11 Maximum frequency and dosage pulse LED
- 12 Dosing potentiometer (%)

Bleeding procedure

Warning

Caution is required during bleeding to prevent any contact of the detergent with the skin that can cause irritation. Refer to the safety datasheet of the detergent.

- A** Check the water inlet and outlet valves of the control cabinet are opened.
- B** Switch on the dosing pump 1.
- C** Set the detergent injection rate to 100% with the setting knob 12.
- D** Open the detergent purge circuit by turning the knob 5 approximately 1 turn left. Leave it open.
- E** Activate the detergent dosing by launching a manual washing cycle from the Touch Screen (see chapter hereafter). When the detergent exits the detergent purge outlet 4 without air bubbles, the washing cycle can be stopped.
- F** Close the purge circuit by turning right the knob 5.
- G** Set back the injection rate to the desired level 12.

3.6 Setting of the detergent injection rate

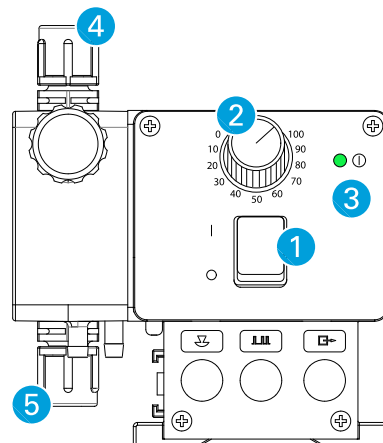
Notice

The injection rate of the detergent can be set between 30% and 100% (dosage precision can't be guaranteed below 30%)

Maximum detergent flow rate is 7,2 l/h at 100%

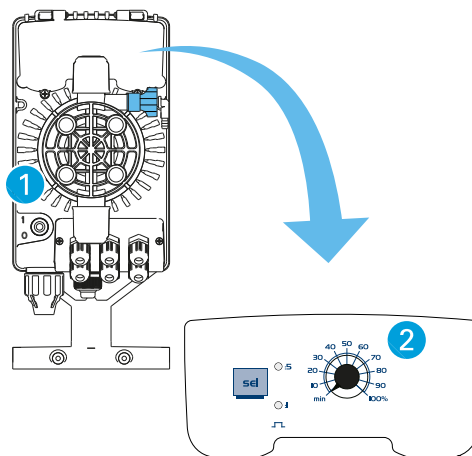
Adjusting the injection rate - Elados

- A** Open the detergent inlet and outlet ball valves **5** & **4**.
- B** Check that the detergent ON/OFF switch **1** is ON.
- C** Run the detergent pump by activating a manual washing cycle.
- D** Set the desired metering capacity by turning the knob **2**.
- E** Stop the manual washing cycle afterwards.
- F** Close the detergent inlet and outlet ball valves **5** & **4**.



Adjusting the injection rate - Teknaevo

- A** Check that the detergent ON/OFF switch **1** is ON.
- B** Run the detergent pump by activating a manual washing cycle.
- C** Set the desired metering capacity by turning the knob **2**.
- D** Stop the manual washing cycle afterwards.



Injection rate

To determine the injection rate required, determine first the “most critical washing zone” (1 solenoid valve = 1 washing zone) i.e. having the heaviest cooking appliances or where the filters get dirty the fastest.

Evaluate cooking appliances' emission level with the table and use the corresponding injection rate given. This rate will be then used for all the washing zones.

Notice

The final washing efficiency depends on the detergent injection rate but also on the duration of every washing cycle's step (washing, soaking, and rinsing).

Duration of the washing cycles:

Reference

See the User guide dedicated to the Halton TouchScreen

Emission level	Cooking appliances	Injection rate	Washing cycles duration		
			Washing	Soaking	Rinsing
Economy	Small griddles, tilting kettles, ovens, ranges etc...	30%	15s	120s	60s
Normal	Fryers, tilting kettles, braising pans, big griddles, combi ovens, salamanders etc...	50%	30s	300s	60s
Heavy	Charbroilers, any wood stone charcoal appliance, tandoori ovens etc...	50-70%	60s	600s	120s



The detergent is classified as corrosive. All precautions must be taken during handling. Bad selection or concentration of the detergent can lead to irreversible damages. If any doubt, contact Halton to validate the chosen detergent.

3.7 Settings of the Wash technology

Reference

See the User guide dedicated to the Halton TouchScreen

4 Maintenance

4.1 Generalities about cleaning

Precautions to take with stainless steel and detergents

Stainless steel is not an indestructible material. There are numerous false ideas about it and a number of users know little of the precautions to take to keep it looking new.

One or several stainless steel-specific detergents or cleaning product have to be carefully selected with a specialist to prevent its corrosion or deterioration, depending on the cleaning methods used to clean all parts of Halton's hoods, ventilated ceilings or any other Halton product made of stainless steel.

The product used to wash these parts manually, in a dishwashing machine, with a steamer or a high pressure cleaner etc are indeed not necessary not the same and mustn't be switched. Before proceeding to a full cleaning, carry out a trial for every part with the recommended detergent and on a small surface.

Notice

It is the responsibility of the user to bring knowledge of this guide to all people likely to maintain Halton stainless steel based products.

Caution

Any warranty will be rendered void if an inappropriate detergent is used.

The selected detergents have to be also compatible with the cleaning of galvanised steel that can be used on hidden parts and combined with stainless steel.

Caution

The products to never use or put in contact with stainless steel:

Concentrated or hot bleach.

Concentrated or hot disinfectant products.

Hydrochloric acid (tile cleaners) even diluted and cold.

Metallic brushes or sponges.

Summary of the precautions:

- 1 Respect the recommended dosage.
- 2 Respect temperatures.
- 3 Respect contact time.
- 4 Rinse well.
- 5 Dry well.

Reference



A guide created by Arcelor Mittal contains good advice relating to stainless steel in the catering sector

4.2 Generalities

The CCW control cabinets are advanced products leading to maintenance savings in commercial kitchens. They require light but regular maintenance operations. Some of them have to be implemented by trained and authorized personnel.

Notice:

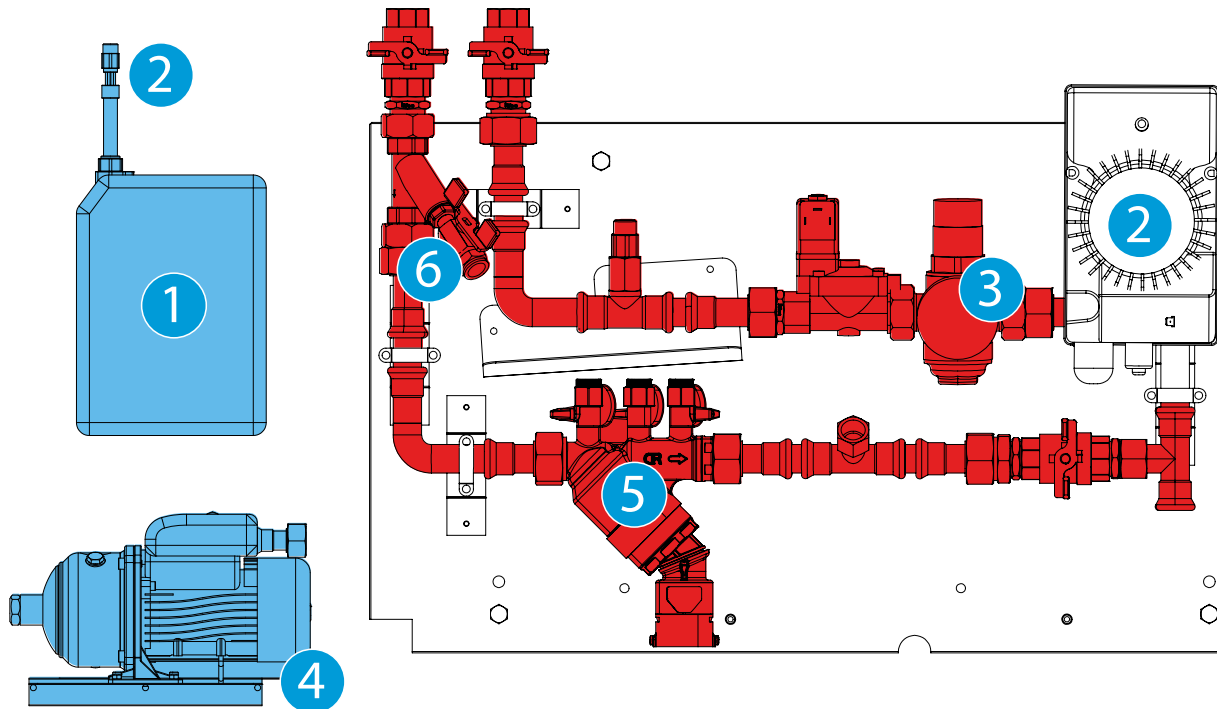
It is highly recommended to establish a maintenance contract to cover all maintenance needs. Please contact your nearest Halton unit.

4.3 Safe handling of detergent



The detergent is classified as corrosive. All precautions must be taken during handling. Bad selection or concentration of the detergent can lead to irreversible damages. If any doubt, contact Halton to validate the chosen detergent.

4.4 Maintenance needs



Daily:

- Check of the ① detergent tank level

Every 3 months:

- Cleaning of the ② detergent dosing pump (see manufacturer instructions appended)
- Cleaning of the ③ pressure reducers and their filter (see manufacturer instructions appended);
- Check of the ④ booster pump and its bypass
- Cleaning of external water filter (if applicable)

Every 6 months:

- Functional check of the ⑤ backflow preventer (see manufacturer instructions appended)

Every 12 months:

- Cleaning of the ⑤ backflow preventer (see manufacturer instructions appended)
- Backflow preventer maintenance is the responsibility of the customer, according EN 806-5 or subject to local regulation or authorities requirements.
- Cleaning of the ⑥ Y strainer filter (see manufacturer instructions appended)

⚠ Caution

Some maintenance operation must be combined with those of the other products installed

📖 Reference:

More information on dedicated hood or ventilated ceilings guides

4.5 Maintenance of drainage system

Notice:

The maintenance of the sewage pipes must be ensured in order to guarantee the safety and health of the staff. As such, cleaning is one of the essential maintenance operations to be implemented.

Notice:

Above charcoal appliances, extra precautions must be taken due to combustion residues which can generate deposits in the sewage pipes.

Warning:

Scale, grease and organic matter contained in the waste water can lead to the formation of deposits in the drainage pipes that can lead to a reduction in their diameter and a risk of backflow.

Warning:

The degradation of organic deposits in the drainage system releases toxic gazes responsible for serious nerve and respiratory damage at high doses. It also degrades Cast iron pipes, as well as seals. Cracks can then appear, leading to leak foul odors and even a risk of rupture.

Notice:

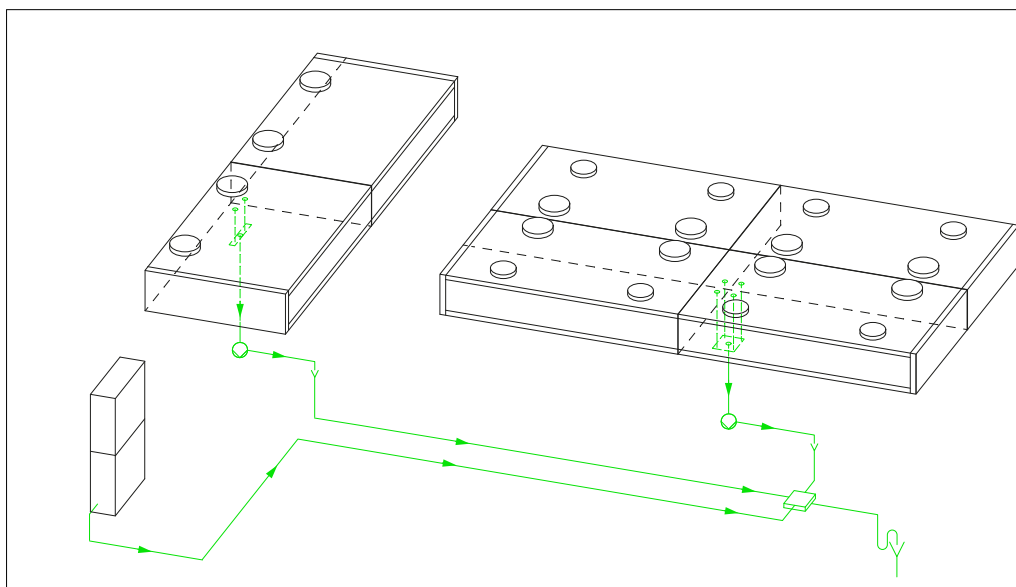
The sewage system must be inspected and cleaned on a regular basis. Cleaning should start from the hoods' or ceilings' drain to the final discharge point.

Warning:

The kitchen drainage network must be inspected and cleaned according to the local regulation by an authorised service company.

Warning:

Always wear protection glasses and gloves when manipulating cleaning products.



Sewage lift pump (optional)



Kitchen drainage system equipped a grease trap



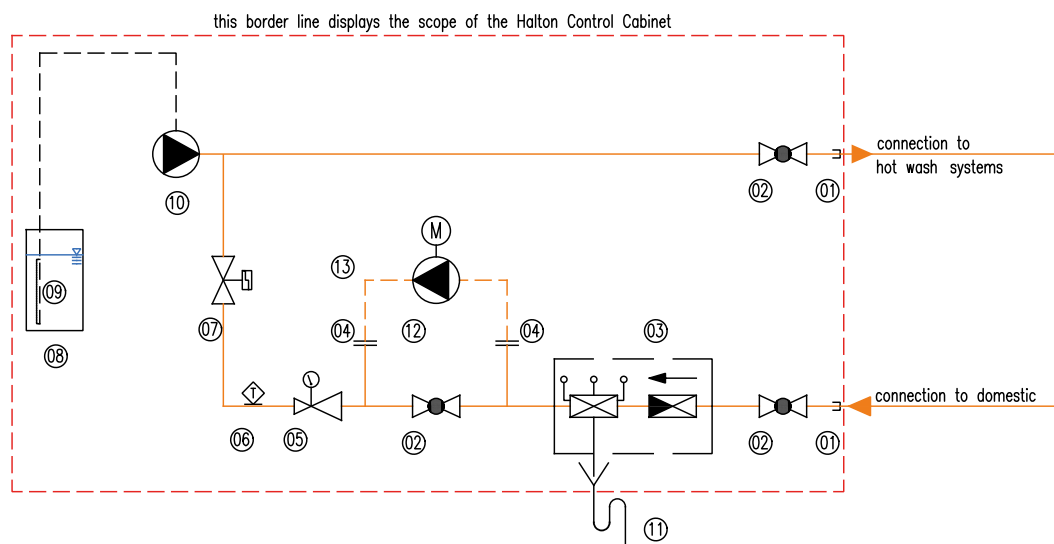
Connection to the building's or city's waste water system

5 Annexes

5.1 Hydraulic Diagrams

Overview of installed components

Group	Label	Dimension
①	Plastic plug - connection to domestic pipework	DN20 - $\frac{3}{4}$ "
②	Ball valve	DN20 - $\frac{3}{4}$ "
③	System separator	DN20 - $\frac{3}{4}$ "
④	Stainless steel plug	DN20 - $\frac{3}{4}$ "
⑤	Pressure reducer with pressure & temperature indicator	DN20 - $\frac{3}{4}$ "
⑥	Clamp-on temperature sensor	
⑦	Solenoid valve	DN20 - $\frac{3}{4}$ "
⑧	Detergent tank	
⑨	Suction lance with level switch	
⑩	Dosage pump for detergent	
⑪	Siphon DN50 (2") - (not in scope of Halton)	
⑫	Booster pump (optional)	
⑬	Flexible reinforced hose, length = 500mm	DN20 - $\frac{3}{4}$ "
⑭	CLEAN solenoid valve - 24V	DN20 - $\frac{3}{4}$ "
A	Flushing water connection DN20 - $\frac{3}{4}$ "	DN20 - $\frac{3}{4}$ "
B	Drain water connection DN50 - 2"	DN50 - 2"
	Piping for hot water in threaded stainless steel pipe DN20 ($\frac{3}{4}$ ")	
	Piping for drain water in plastic KG plug-in pipe DN50 (2")	



5.2 Detergent pump

Reference



Scan or click to access detergent pump documentation

5.3 Sferaco Backflow Preventer

The backflow preventer unit is a health and safety device that requires periodic inspection.

According to standard EN 806-5, BA type backflow preventers must be inspected once every six months and subjected to routine maintenance at least once a year.

The first indication of poor operation, generally caused by foreign matter (sand or other debris), is revealed with a permanent leakage from the discharge. Such a leakage does not affect safety, but it calls for the device and the upstream strainer housed in the upstream connection on the body to be disassembled and cleaned. The quick checking method is specified in the table shown below. In the event of leakage at the discharge it is recommended to generate a major flow of circulation by opening one or more taps for a few minutes: this is often sufficient to expel any foreign matter and restore normal conditions. For functional checking of backflow preventers for special applications codes 5801 .. /5802 .. fit a isolating valve in place of the hose connection at the backflow preventer outlet.

A list of visual inspections and functional checks is given in standard EN 806-5.

Inspection

Check that the use of water downstream is unchanged and check also compliance with the installation requirements, in accordance with the contents of the "Installation" paragraph.

Maintenance

Clean the upstream strainer and the discharge tundish. Check operation of the components: water-tightness of the check valves and seals, discharge opening/closing tests, measurement of pressure values with suitable instrument (static, dynamic, differential), in accordance with the procedure described below. Log the work performed and functional parameters in the commissioning report. Alert the user in the case of faults and immediately shut off the device upstream until it can be repaired or replaced.

It is prohibited to by-pass the backflow preventer, so it is good practice to procure a spare device in the case of critical installations.

Reference



Scan or click to access backflow preventer documentation

5.4 Sferaco Strainer

Reference



Scan or click to access Y strainer documentation



Halton Foodservice
Technoparc Futura
62400 BETHUNE
France

info.fr@halton.com
www.halton.com

Projet / Project: CCW-C
Responsable / Person in charge: M HOYEZ

Fabriquant / Producer: Halton Foodservice

Automate SMARTEH : version LHC-2

Tension d'alimentation / Rated voltage: 230 VAC

Courant d'alimentation / Rated current: 16A

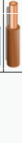







Température ambiante / Ambient temperature: 25° C

Ausführung der Schaltanlage nach BGV A3 und den Richtlinien VDE 0113 / Switching circuit installed in compliance with BGV A3 and with VDE 0113 Guidelines
Schutzmassnahmen und Errichtungsbestimmungen des örtlichen EVU's sind einzuhalten. *N.B.: Equipotential bonding must be provided to suit local conditions*

Vérifié et approuvé:
checked and confirmed:

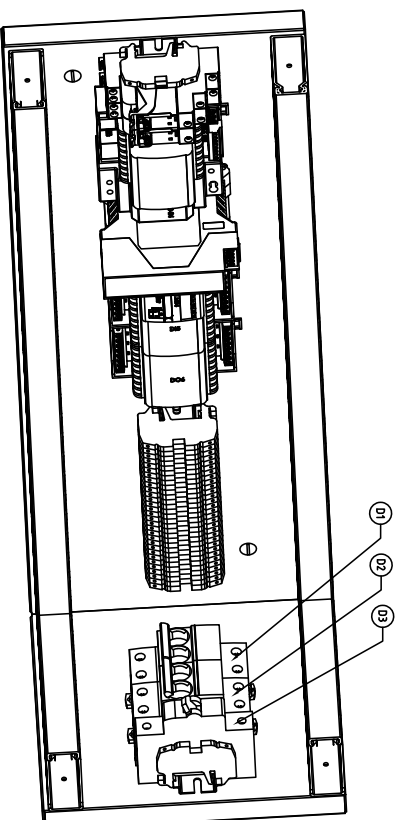
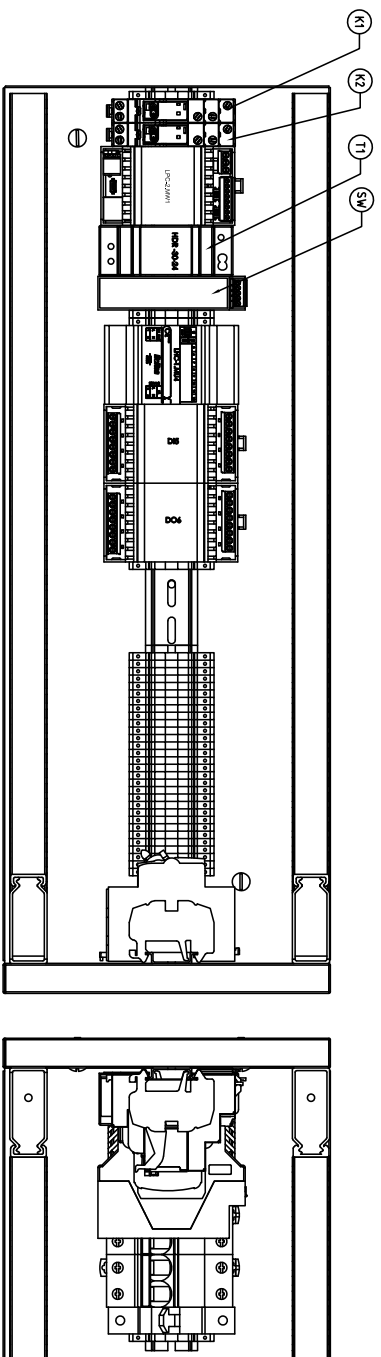
Color code and type of wire used inside cabinets

Codes couleur et types de câble utilisés dans les coffrets

Low voltage - Basse Tension - H05VV F 3G1,5²			
Phase +230V	brown/marron		1,5mm²
Neutral (N)	blue/bleu		
Ground (Terre)	green-yellow/vert-jaune		
Safety Extra Low voltage - Très Basse Tension Sécurité - H05VK 0,75²			
+ 24V DC	red/rouge		0,75mm²
0 V DC	black/noir		
Free voltage dry switch Max 230V AC - H05VK1²			
0...230V	orange		1mm²
analogic signals -0-10 VDC / or 0-20 mA - H05VK 0,75²			
+0...10 V DC	violet/purple		0,75mm²
0 V DC	white/blanc		0,75mm²

Date/Date	28/10/2022	Index	1	 <div>Halton Foodservice SAS Technoparc Futura 62400 BETHUNE www.halton.fr</div>	CCW - C	Groupe/Group M	Abs./sec. 1	Bl./page. 1
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Lien/Link	tableau Control Cabinet LHC-2.dwg							


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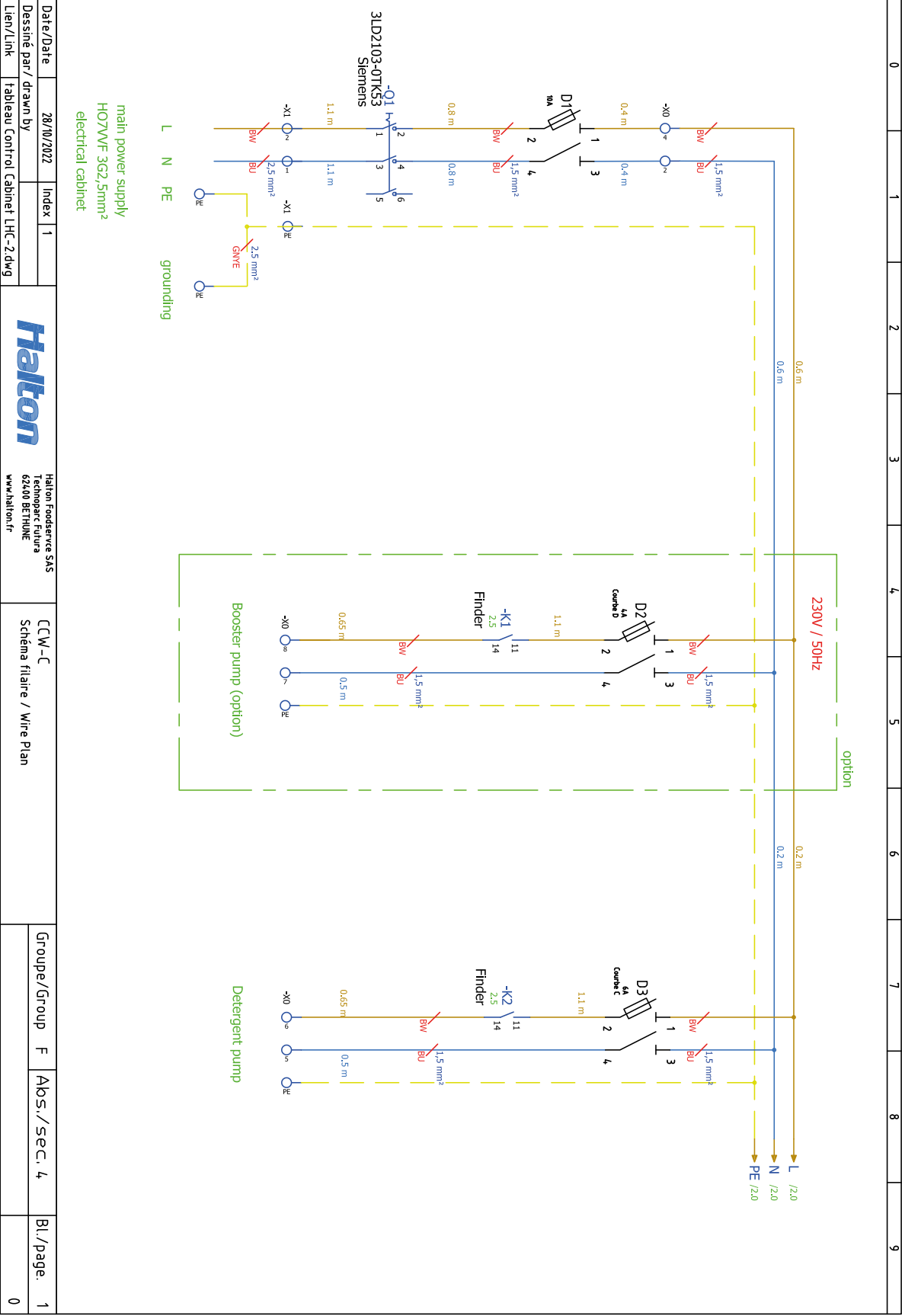


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Abs./sec.		1	
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NOMENCLATURE / COMPONENT LIST

Etiquette/ Title	Désignation / Component	Référence / Model	Quantité / Number
Tableau électrique /Electrical Panel			
D1	Disjoncteur 10A / breaker 10A	Schneider Courbe C 10kA - 2P - 16A	1 pce
D2	Disjoncteur 4A / breaker 4A	Schneider IC60N - 2P - 4A - courbe D	1 pce
D3	Disjoncteur 6A / breaker 6A	Schneider GB2CD12 6A	1 pce
MU4	Controlleur / Controller	SMARTEH LHC-2.MU4 Main Ww Module	1 pce
DI5	Module Entrées / Input Module	SMARTEH LPC-2.DI5 Input Module	1 pce
DO6	Module Sorties / Output Module (Option)	SMARTEH LPC-2.DO6 Output Module	1 pce
T1	Alimentation / 24V Power Supply	MeanWell 0.63A/24V HDR-30-24	1 pce
K1	Relais / Relay	Finder -230VAC - 40.52.8.230.0000	1 pce
K2	Relais / Relay	Finder -230VAC - 40.52.8.230.0000	1 pce
SW	Ethernet switch	Brainboxes - SW-504 / 4 ports	1 pce
MW1	Controlleur / Controller	SMARTEH LPC-2.MW1 Main Module	1 pce
Face avant / Front face			
HM1	IHM / HMI	WEINTEK MT8071IE	1 pce
Q1	Interrupteur Sectionneur / disconnecter	Siemens 3LD22103-0TK53 - 400V/9.5kW/AC-23A	1 pce
ED	EDGE (option)	IoT Gateway	1 pce

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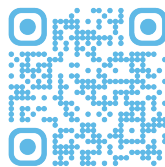
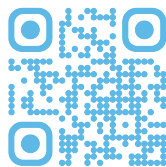
CCW-C
Schéma filaire / Wire Plan

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CCW-C Plan de bornier / Terminal plan		
Groupe/Group	B	Abs./sec. 1
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0	1	2	3	4	5	6	7	8	9			
Main Power Supply 3G 2,5 mm ²												
PS Edge/N					X1	Q1/L1	F11	2 x 1,5 mm ²				
D1/1					1							
PS Edge/L					2							
D1/3					3							
PS Edge/PE					4							
N					PE							
Detergent pump 3G 1,5 mm ² 2m					5							
L					6							
PE					PE							
N					7							
Booster pump (option) 3G 1,5 mm ² 0.7m					8							
L					PE							
PE												
F63 SW-504/1					9				HMI Weintek PE F67			
F63 SW-504/2					10				HMI Weintek - F67			
F62 SW-504 PE					PE				HMI Weintek + F67			
1												
Solenoid valve 0.6m YSL JZ 3G 1 mm ²					11							
PE					12							
W (White)					PE							
2 x 0.5 mm ² 1.1m					13				MU4/10 (white) F28			
Bw					14				MU4/9 F28			
W (White)					15				D15/6 F34			
Bw					16				D15/5 F34			
Detergent level Alarm 2 x 1 mm ² (option)					17				D06/6 (option) F45			
2 x 1 mm ² (option)					18				D06/5 (option) F45			
Common Alarm 2 x 1 mm ² (option)					19				D06/16 (option) F48			
					20				D06/15 (option) F48			
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Halton Manufacturing and Sales Facilities in the world



Sales and service centers



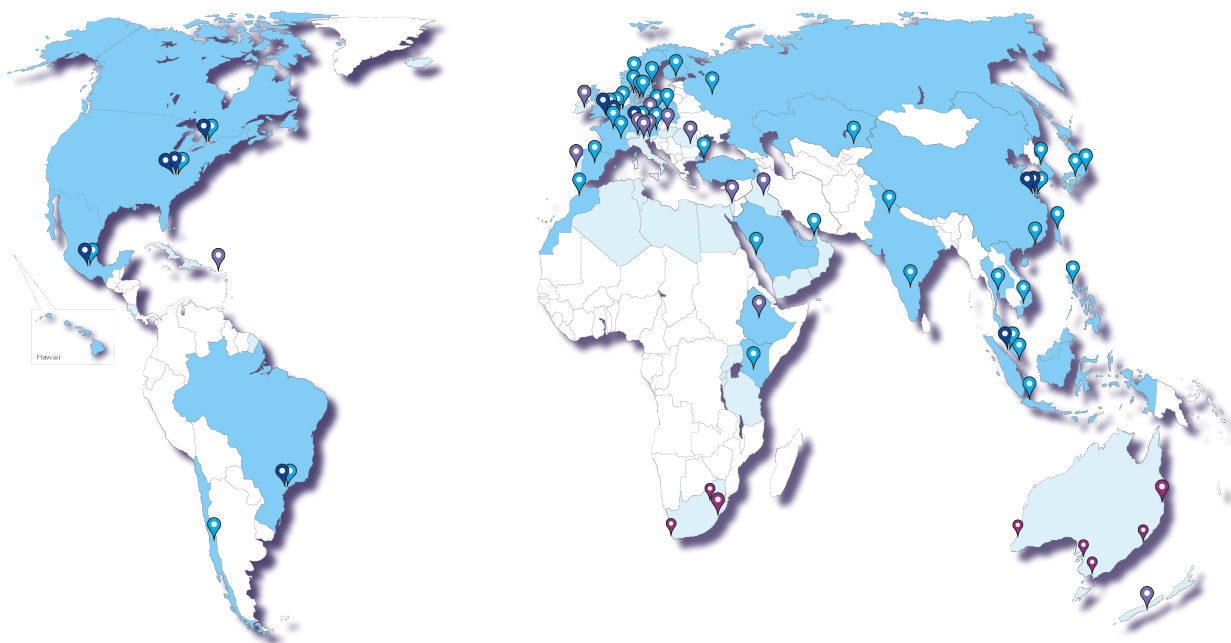
Representatives



Factories



Manufacturing licences



Halton Foodservice partnerships



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