centrego



TOUCAN ECO FLOW 40

OPERATIONS AND LOG MANUAL

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Introduction

The Toucan Flow 40

The Toucan Flow-40 uses ElectroChemical Activation (ECA) technology to generate solutions with biocidal and cleaning properties from the activation of water and salt.

The systems use a membrane cell which separates solution generated at the anode (positive) from solution generated at the cathode (negative). These solutions can be used independently of each other, or mixed.

The solution that generates at the anode is called Anolyte. It consists of the active substance hypochlorous acid (HOCl) with a small amount of sodium hypochlorite (NaOCl). It is generated at 500ppm concentration and is pH neutral. HOCl is a powerful but very safe biocide. It is non-toxic, non-hazardous and hypoallergenic. It has a very fast contact time with high efficacy. It is used for surface, air and fabric disinfection as well as in food processing and preparation, Industrial process water and water treatment.

The solution generated at the cathode is called catholyte.
It consists of sodium hydroxide (NaOH). It is an alkaline solution with a pH level of around pH10.5. Catholyte is a detergent and can be used for cleaning surfaces.

The solutions can be mixed to produce a solution that combines the cleaning and disinfection properties of two solutions.



Water Quality

WATER QUALITY FOR TOUCAN FLOW-40 SYSTEMS

The quality of water entering the Toucan Flow systems and brine tank is critical in managing the operation of the system and ensuring the life-span of the ECA cell. If the water quality contains levels of minerals such as calcium and magnesium, limescale will build up on the ECA cell leading to reduced performance and ultimate failure of the cell. Using unsuitable water supplies will invalidate the warranty of the cell.

Water hardness is the term for mineral content in water supplies. 'Hard' water contains high levels of minerals, soft water has low levels of minerals. Water hardness measured in parts per million (ppm) or degrees of general hardness (dGH) or German degrees (°dH). The lower the levels of water hardness in the supply water, the longer the life of the cell and the more efficient the activation process and generation of the solutions.

The recommended water quality for operating the Toucan Flow systems is <20 ppm CaCo3, or 1 dGH, °dH.

Achieving Recommended Water Quality

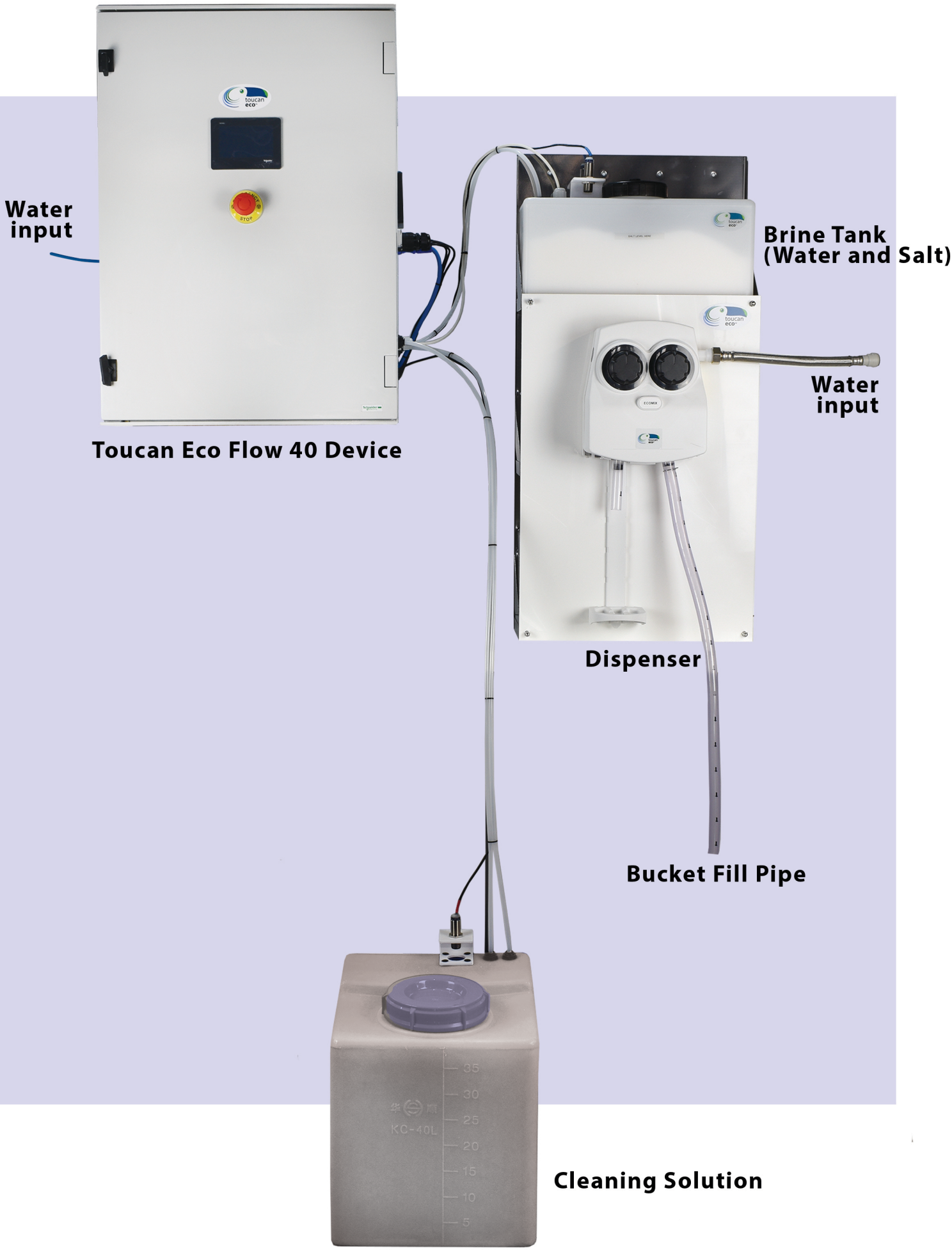
Achieving the recommended water quality levels for the long term protection of the Toucan Flow systems, the following actions can be taken:

1. Check the water quality of the water supply to assess the water hardness. If above 20ppm CaCo3 or 1 dGH, °dH, measures should be taken to reduce the hardness of the water supply.
2. An in-line electrolytic limescale inhibitor can be fitted to keep the minerals suspended in water and reduce the risk of limescale build-up. Centrego can supply these devices.
3. Water softeners – in many buildings and facilities, there is already a water treatment plant to soften water in hard water areas, this supply should be used. Water with hardness levels of over 60ppm is considered 'hard' and will require a water softener to reduce the levels down to <20ppm. Centrego can specify and supply water softeners.
4. Reverse osmosis – this is a process where all the minerals are removed from the water source. However, most potable water from an RO source is re-mineralised and therefore it is important to assess the water hardness of RO water supplies.

Descaling Maintenance Routine

The Flow cells and pipes should be regularly descaled to remove any mineral build-up inside the cell and the pipes. A descaling routine should be conducted every 200hrs of operation.
Descaling agents are acids which neutralise and dissolve mineral build-up (limescale) on surfaces. Either a proprietary descaling solution can be used, or a solution white vinegar is an environmentally friendly alternative. The cell and adjoining pipework should be flushed through with the descaling solution using either a hand pump, or the flushing system supplied by Centrego.

Layout of device



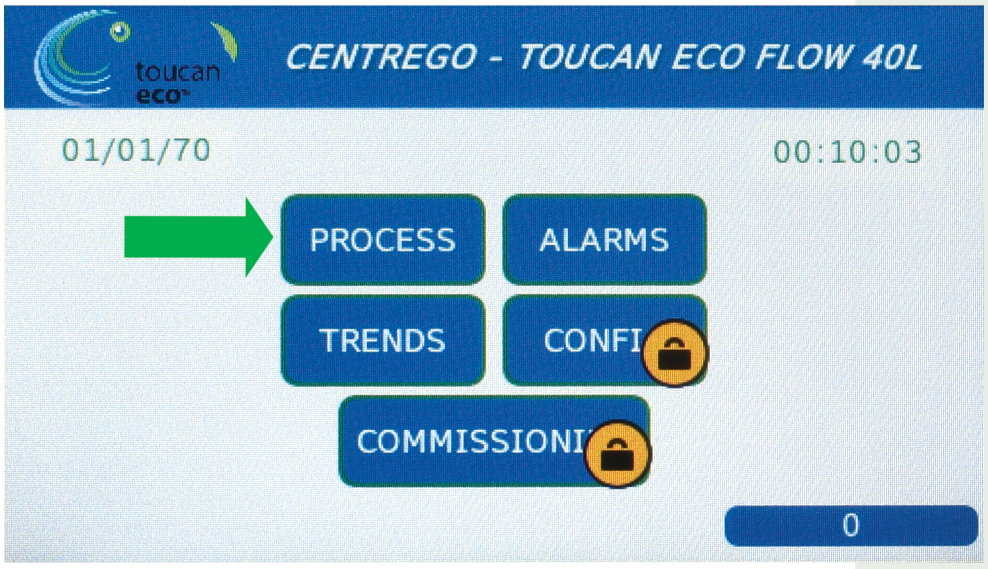
Home and Process Overview screens

Home Screen:

This is the home screen, you can navigate to all menus from here.

The process screen should be visible when in operation.

Press 'PROCESS' to open Process screen.

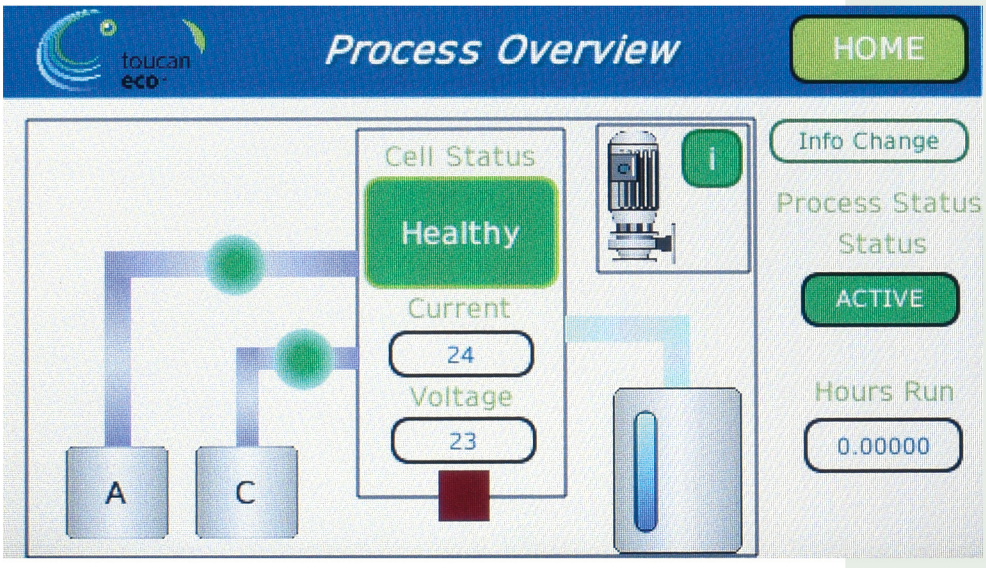


Process Overview:

This screen will enable you to view the status of the machine at any time.

A&C (Anolyte & Catholyte) is the cleaning solution output by the device.
The cell status tells you if the cell in the device is producing cleaning solution effectively.

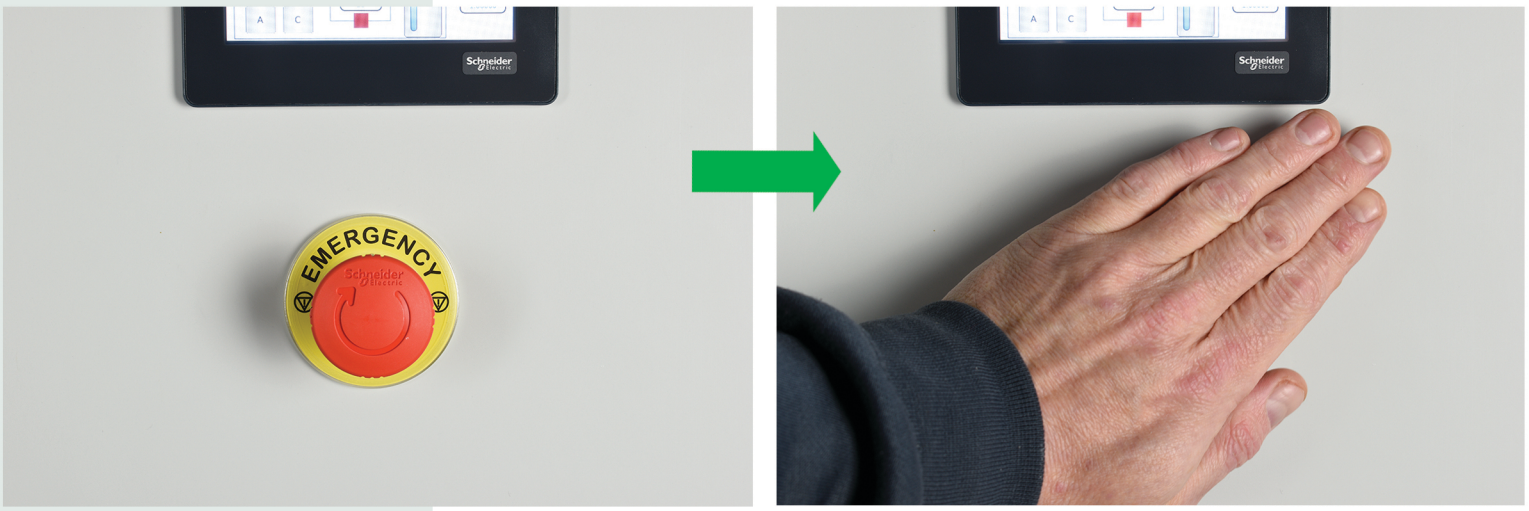
The below example shows 'Healthy' this is what is needed for optimal use.



Activating the Emergency Stop Button

Pressing the Emergency Stop Button:

To activate emergency stop, press firmly into the front of the device on the red button as shown. This can be pressed in an emergency to stop the machine completely.



Emergency stop button activated:

Once the button has been pressed, it will lock down and the screen will confirm that it has been pressed by showing 'E-STOP Active' as below.



Unlocking the Emergency Stop Button

Follow the below guide to unlock the emergency stop button after it has been activated.



After resolving an issue the emergency button will still be locked.



Grip the button so that it can be twisted.



Twist the button clockwise, in the same direction as shown by the arrow printed on the button itself.

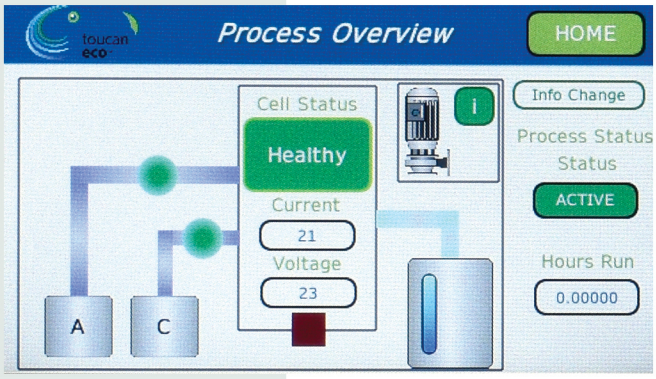


You will feel the button click towards you.
release the button with your hand.
this has unlocked the button and the device will resume operation.

Salt levels in the brine tank

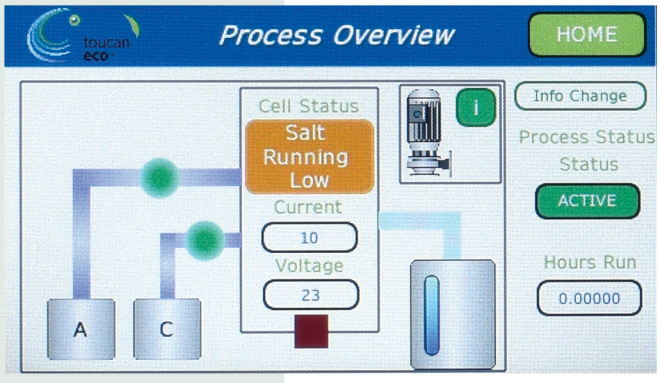
Brine is water with a high concentration of salt and in order to keep the machine running correctly you will need to keep the brine tank topped up with salt.

If the salt level goes down the below sequence will show on the screen.



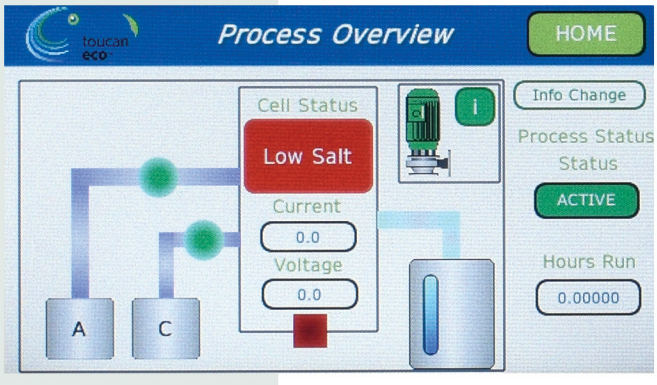
Healthy:

This shows that there is a good amount of salt in the brine tank.



Salt Running Low:

This shows that the salt will need to be topped up very soon for normal operation to continue.



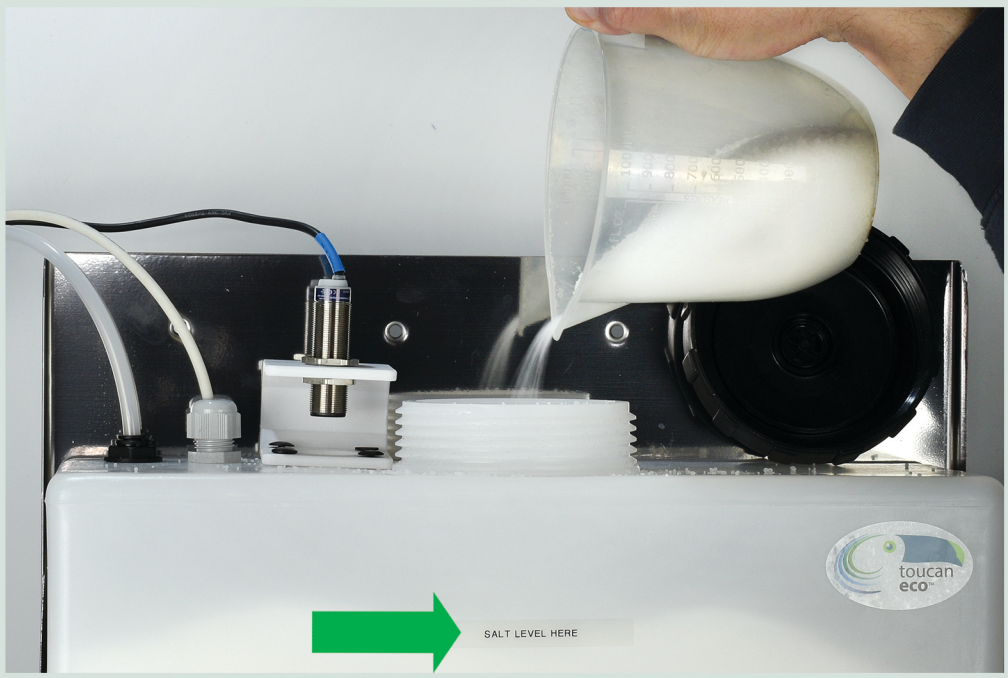
Low Salt:

The brine tank needs to be topped up with salt immediately for normal operation to resume.

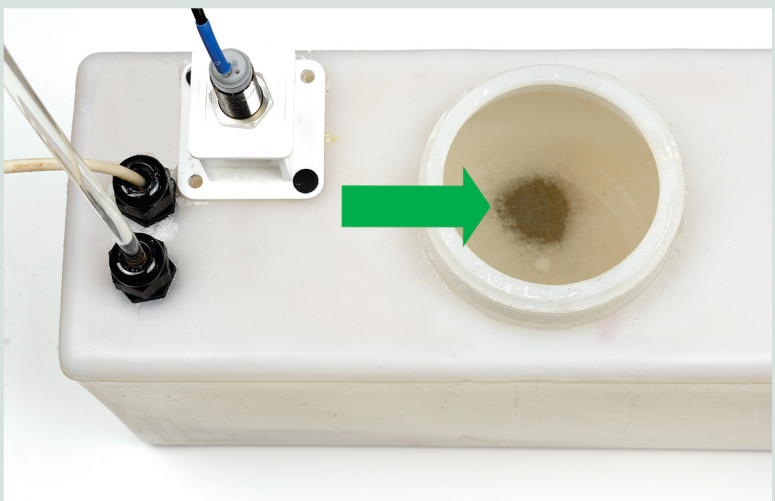
The system may need to be reset twice after salt level is low
Reset system by pressing and releasing emergency stop button twice

Reasons why the salt will read as low

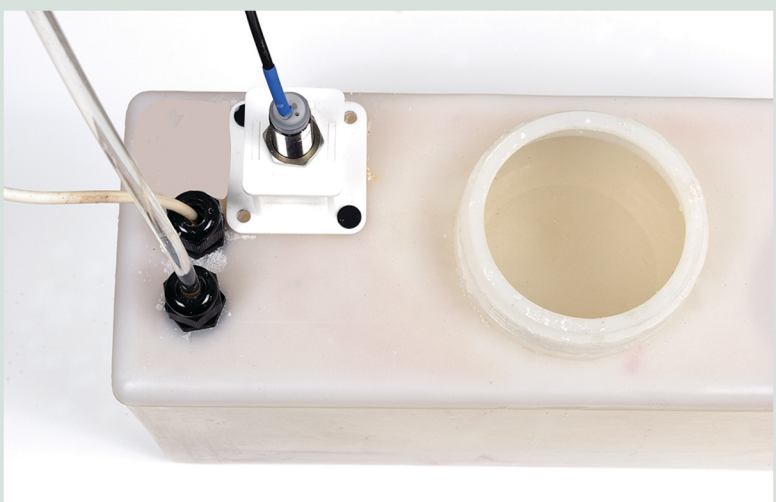
1) The salt is low in the brine tank, please fill the salt level to the marker shown with the arrow below to resolve this.



2) The filter in the brine tank is not submerged in salt. Push the filter to the bottom of the tank and make sure that salt levels are topped up as in point one.



If the filter can been seen then the machine may read as low salt even if there is plenty of salt.

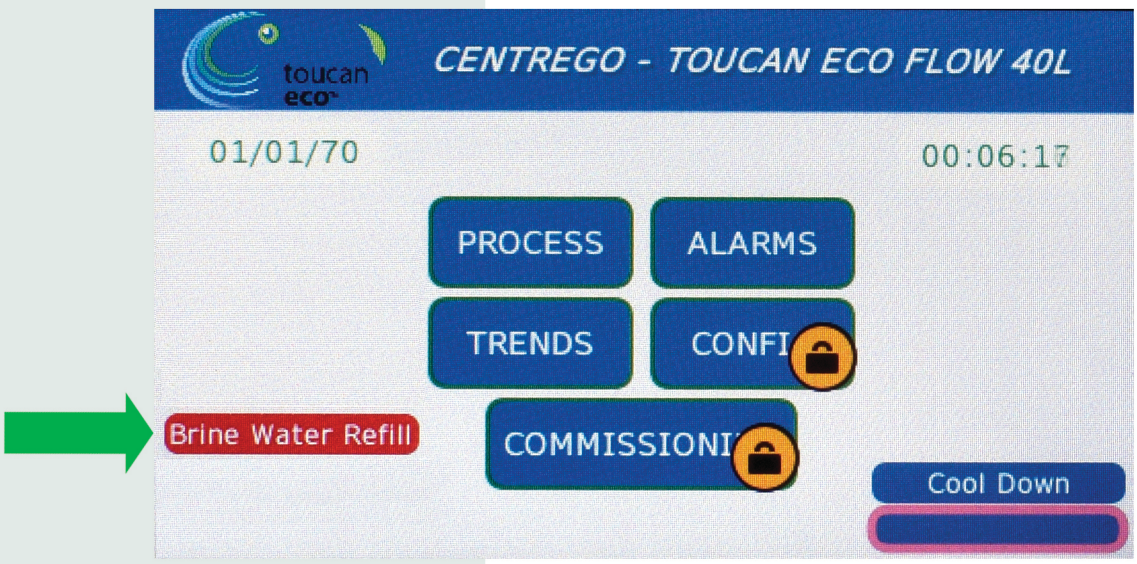


Push the filter into the bottom of the tank under the salt and make sure that the tank is topped up with salt.

Brine Water Refill

Brine is water with a high concentration of salt and in order to keep the machine running correctly the machine will need to keep the brine tank topped up with water.

If the water level goes down the below warning message will show on the screen.



How to fill the brine tank up with water

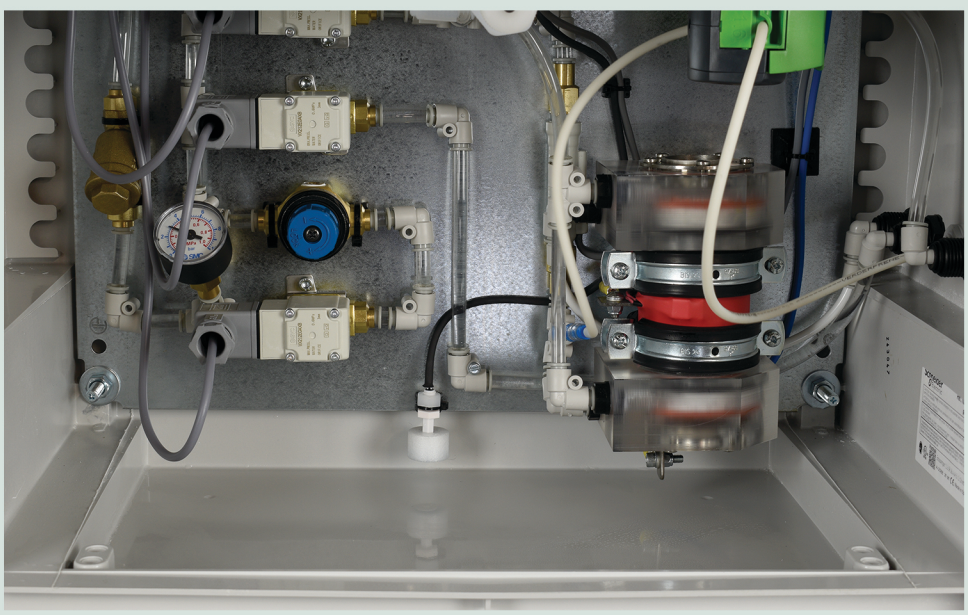
You do not need to do anything for this to happen. The machine will fill the brine tank up with water automatically until it is full.
The warning message will then disappear and normal operation will resume.



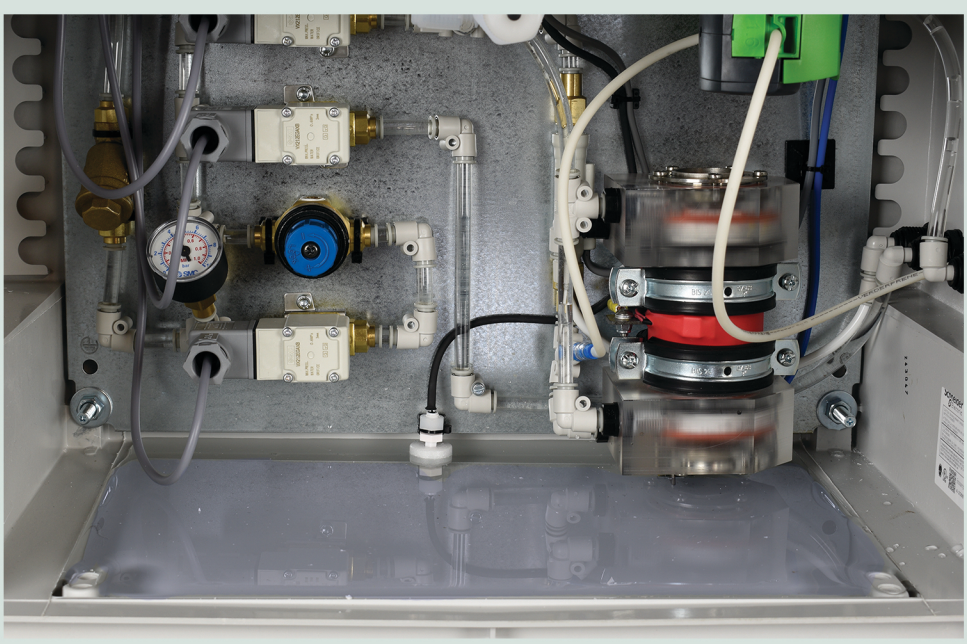
Moisture Alarm

The moisture alarm means that there may be an internal leak in the device itself. Press the emergency stop button and seek assistance from appropriate staff.





This image shows the inside of the device with no water inside.

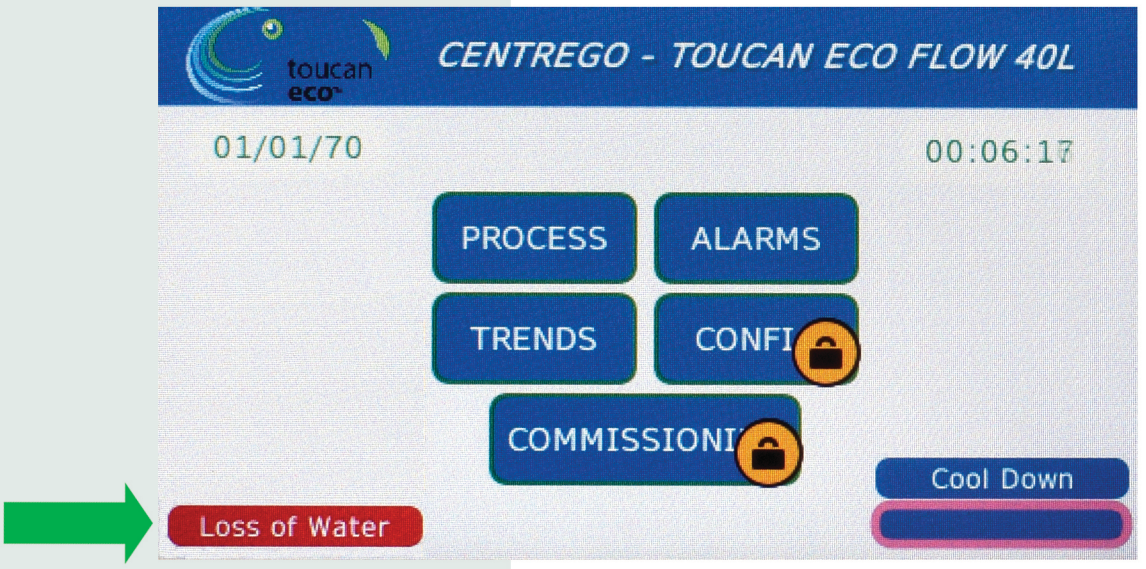


This image shows the inside of the device full of water.

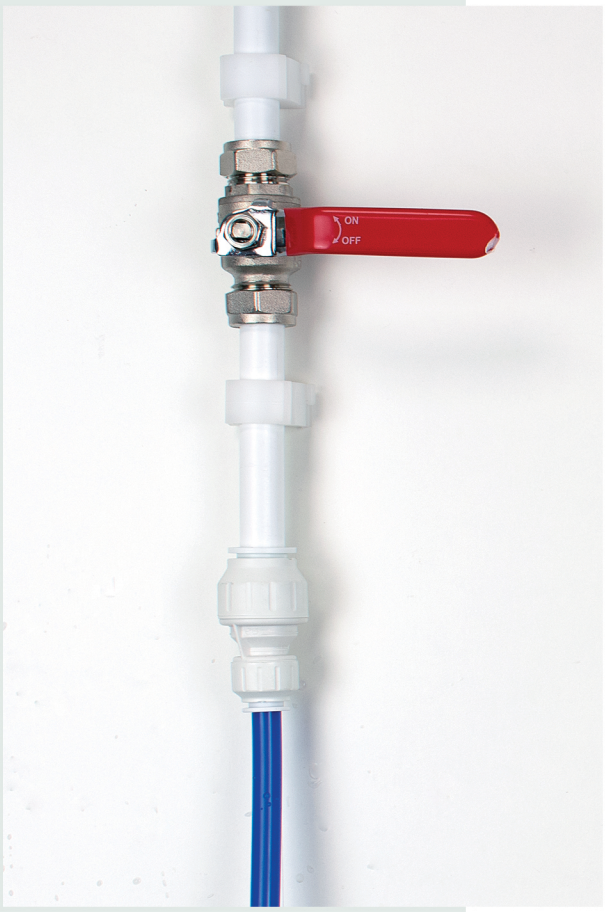
This is what the inside will look like if there is excessive moisture.

Loss of Water

If there is not water going to the device at all then the 'Loss of Water' message will come up as shown below. If this happens check that any isolation valves are open and that there is a water supply going to the machine. If you cannot find resolve please contact the appropriate staff.



Check any isolation valve around the device



Check all pipes are connected

