LogicWater®

CleanIt

USER MANUAL · INSTALLATION & OPERATION

CleanIt1200

High-capacity HOCl generator for food plants, farms and large facilities



30–300
ppm FAC

1,200 L/h
max. production

700 W
power

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Before you start. Read section 1 (Introduction and safety) completely before installing or operating the CleanIt1200, and keep this manual near the equipment.

1 Introduction and safety

The Logicwater CleanIt1200 is a high-capacity, wall-mounted generator that makes hypochlorous acid (HOCl) sanitizing solution on site from water, salt and electricity. It produces 30 to 300 ppm of free available chlorine (FAC) at flows from 4 L/min upward, for food processing, healthcare, hospitality, agriculture and facility sanitation.

Read this manual completely before installing or operating the unit, and keep it near the equipment. The unit must be installed, operated and maintained by a trained, designated person.

Gas and ventilation

- Electrolysis releases small amounts of hydrogen gas (H2). Hydrogen that collects in a closed space can ignite. Install the unit only in a well-ventilated room.
- The product contains free chlorine. If the solution becomes strongly acidic it can release chlorine gas (Cl2), which irritates and can injure the lungs. Never mix the product or additive with other acids, bleach or cleaning chemicals.
- Keep the unit away from open flames and heat sources above 400 °C.

Electrical safety

- Connect only to a properly earthed, certified outlet rated for the unit's 700 W load. An RCD/RCCB (GFCI) protected supply is strongly recommended.
- Do not install the unit where it can be splashed, sprayed or submerged.
- Do not run the unit if the power cord is damaged.
- Do not operate where relative humidity exceeds 95%.
- In case of electric shock, smoke or fire, disconnect the power supply immediately.

Chemical handling

- Wear chemical-resistant gloves and eye protection when handling hydrochloric acid (HCl).
- Always add acid to water, never water to acid.
- Label and store additive and acid containers out of reach of children.

2 Specifications and site requirements

Specification	CleanIt1200
Model	CleanIt1200
Mounting	Wall-mounted on steel bracket
Dimensions (W x D x H)	35 x 24 x 52 cm
Weight	21.2 kg
Product	Hypochlorous acid (HOCl) solution
Output concentration	30 to 300 ppm free available chlorine (FAC); production up to 1,200 L/h
Power supply	AC 100–240 V, 50/60 Hz, 700 W
Cell current setting	20 to 65 A
Dosing pump setting	0 (fastest) to 19 (slowest)
Electrolysis cell	Single-cell electrolyzer
Water connections	3/4" hose-barb adapters, 3/4" reinforced tubing

Site requirement	Value
Room temperature	5 to 50 °C
Feed water and brine temperature	10 to 30 °C
Feed water and brine-water hardness	Below 80 ppm — harder water scales and damages the cell
Relative humidity	Below 96% RH
Minimum feed flow	4 L/min — lower flow damages the cell
Maximum feed pressure	3.4 bar (50 psi)

If your water is harder than 80 ppm, fit a softener or RO unit upstream. If supply pressure exceeds 3.4 bar, fit a pressure-reducing valve.

3 Parts list

Check the contents against this list before you start.

Ref	Part	Qty
1	3/4" hose-barb x 3/4" MPT adapter, straight	5
2	3/4" hose-barb x 1/2" MPT adapter, straight	2
3	3/4" hose-barb x 3/4" MPT adapter, elbow	2
4	3/4" reinforced tubing, 70 psi rated (cut to length)	10 ft
5	Titanium hose clamp, SAE #12	7
6	Filter housing, 3/4" FPT	1
7	10" polypropylene sediment cartridge	1
8	Filter housing bracket	1
9	Screws #14 x 1-1/4", stainless (filter bracket)	8
10	Wall anchors #14–#16 x 1-1/4" (filter bracket)	4
11	CleanIt1200 wall bracket	1
12	Screws #14 x 1-1/4", stainless (unit bracket)	4
13	Flat washers 1/4", stainless	4
14	Wall anchors #14–#16 x 1-1/4" (unit bracket)	4
15	Machine screws M4 x 0.7 x 8 mm, stainless (secure unit to bracket)	4
16	1/4" OD silicone suction tubing (pre-connected to the unit)	1
17	Foot-valve strainer, 1/4" OD	1
18	PTFE thread seal tape	1
19	Masonry drill bits, 3/16" and 5/16"	1 each
—	Additive (brine) tank — supplied separately	1

Tools needed: ratcheting PVC/tube cutter, wire cutter (for the reinforcing wire in the tubing), groove-joint pliers, flat-head screwdriver (hose clamps), Phillips screwdriver, electric drill/driver.

4 Installation

Feed water enters through the upper port on the left side of the unit; HOCl solution leaves through the lower port. Wrap every threaded joint with 3–4 turns of PTFE tape. Secure every tubing joint with a hose clamp tightened over the barb.

4.1 Mount the bracket and filter

1. Choose a well-ventilated, dry wall near a drain, within reach of a protected power outlet and the water supply.
2. Hold the CleanIt1200 bracket level, mark and drill the four holes with the masonry bit that fits the anchors, and insert the anchors.
3. Fix the bracket with the #14 screws and flat washers.
4. Lift the unit onto the bracket and lock it in place with the four M4 machine screws.
5. Mount the filter-housing bracket on the wall upstream of the unit, then fit the filter housing with the 10" cartridge inside.

4.2 Connect the feed water (inlet)

The water path runs: water supply → sediment filter → unit inlet.

1. Close the water supply. Fit a 3/4" adapter (straight or elbow) to the supply outlet.
2. Cut a length of reinforced tubing; trim the reinforcing wire flush with a wire cutter. Push it over the barb and clamp it.
3. Connect the other end of the tube to an adapter on the filter-housing inlet and clamp it.
4. From the filter-housing outlet, run a second length of tubing to the straight adapter on the unit's upper (inlet) port. Clamp both ends.

4.3 Connect the product outlet

1. Fit a straight adapter to the unit's lower (outlet) port.
2. Push reinforced tubing over the barb, clamp it, and route it to a holding tank or point of use.
3. **The outlet must always discharge freely, without back pressure.** If you connect a hose or PVC pipe, leave its end open. Never fit a closed valve or nozzle on the outlet — back pressure damages the unit.

4.4 Connect the additive tank

1. Open the front door: push the latch down until it clicks, rotate it, and swing the door open.
2. Find the 1/4" silicone suction tube on the floor of the chamber and pass its end out through the hole in the floor.
3. Fit the foot-valve strainer to the end of the tube and lower it to the bottom of the additive tank.
4. Fill the tank with additive (section 6), open the water supply, check every joint for leaks, then switch on.

5 Control panel and settings

No.	Control	Function
1	4-digit LED display	Shows readings, settings and error codes
2	RUN lamp	Lit while the unit is producing
3	ALARM lamp	Lit when an alarm is active — read the code on the display
4	ON/OFF button	Starts and stops production
5	MODE	Steps through the readings and settings below
6	SET (▲)	Increases the displayed setting
7	RESET (▼)	Clears an alarm; decreases the displayed setting

While the unit is running, press **MODE** repeatedly to step through these items:

Item	Type	Range	Effect
Flow (L/min)	Reading	min. 4 L/min	Set with the gate valve inside the front chamber. More flow = lower ppm; less flow = higher ppm.
Real-time voltage (V)	Reading	—	For monitoring only; not adjustable.
Set current (A)	Setting	20 to 65 A	SET raises, RESET lowers. Higher current = higher ppm.
Real-time current (A)	Reading	—	Compare with the set current to judge cell condition (section 9).
Pump speed (PS)	Setting	0 (fastest) to 19 (slowest)	SET speeds up, RESET slows down. Faster pump = more brine into the cell. Keep in mid-range for most uses.

6 Preparing the additive and pH control

The CleanIt1200 runs on fully saturated salt brine drawn from an external tank.

6.1 Making the brine

1. Fill the additive tank with tap, RO or distilled water with total hardness below 80 ppm. Do not use groundwater or other hard water — it scales the cell quickly.
2. Add pure sodium chloride (NaCl) and stir until no more will dissolve.
3. Keep a layer of undissolved salt on the bottom of the tank at all times. This guarantees the brine stays saturated.

Use only salt with no iodine, anti-caking agents or other minerals. The wrong salt damages the cell.

6.2 Why pH matters

The pH of the product decides how much of the free chlorine is present as hypochlorous acid (HOCl), the more effective form, rather than hypochlorite (OCl^-).

Product pH	Share of free chlorine present as HOCl (approx., 25 °C)
5	over 99%
6	about 97%
7	about 78%
8	about 26%

For most sanitation work, aim for pH 5 to 6. Do not go below pH 4: chlorine gas can be released.

6.3 Two ways to lower the pH

Method	How	Best for
Acidify the brine	Add a measured amount of hydrochloric acid (HCl) to the additive tank. The right amount depends on your flow, current and pump settings — determine it on site by measuring product pH.	Installations where settings never change
pH dosing system (recommended)	An inline dosing unit with pH sensor and controller injects HCl into the inlet water to hold the product at pH 5–6.	All installations, especially where settings vary

Acid grade: food-grade (FCC) HCl, 35–37%, for any food-contact use; technical-grade HCl (32%) is acceptable for general sanitation. Wear gloves and eye protection.

7 Controlling and measuring concentration

Output strength (ppm FAC, 30 to 300 ppm) is set by three adjustments:

Adjustment	How	To raise ppm
Flow rate (L/min)	Gate valve inside the front chamber	Close the valve slightly (never below 4 L/min)
Cell current (A)	MODE → set current, then SET / RESET	Increase current (up to 65 A)
Pump speed (PS)	MODE → pump speed, then SET / RESET	Increase brine feed, within mid-range

Change one adjustment at a time, let the output stabilise for a few minutes, then measure.

Measuring the output

- **Chlorine test strips** give a quick check at 10, 50, 100 and 200 ppm.
- **A high-range chlorine photometer** gives an accurate reading across the full 30–300 ppm range. Use it for commissioning and for food-contact applications.

Test strips and photometers are available from Logicwater.

8 Alarms and troubleshooting

When the ALARM lamp lights, the unit stops and the display shows an error code. Correct the cause, then press **RESET** to resume.

Code	Fault	What to do
Err 1	Low flow	Check the feed water supply, the sediment filter and the gate valve. Restore flow above 4 L/min, then press RESET.
Err 2	Low current	Check that the brine is saturated (undissolved salt on the tank bottom) and that the suction tube and foot-valve strainer are not blocked or out of the brine. Press RESET.
Err 3	High current	Check the brine strength and the brine intake for disruption. Press RESET.
Err 4	Low voltage	Supply voltage is abnormally low. Contact Logicwater service.
Err 5	Fan fault	The cooling fan has stopped. Switch off and contact Logicwater service.

If an alarm returns after RESET, switch the unit off and contact Logicwater service.

Symptom	Likely cause	Remedy
Output weaker than expected	Flow too high, current too low, scaled cell, brine not saturated	Reduce flow, raise current, top up salt; descale if real-time current is below 90% of set current (section 9)
Output too strong	Flow too low or current too high	Open the gate valve or lower the current
Strong chlorine smell	Product pH too low	Reduce acid dosing; check product pH stays at 5 or above
Leak at a tubing joint	Clamp loose or tube not fully on the barb	Depressurise, refit the tube and tighten the clamp

9 Maintenance, descaling and support

With feed water below 80 ppm hardness, scale builds very slowly and the cell may run for years without descaling. Hard water or the wrong salt causes scale quickly and reduces the current the cell can draw.

When to descale: when the real-time current drops below 90% of the set current (for example, below 54 A at a 60 A setting).

Descaling solution

- 1,800 mL water
- 200 mL hydrochloric acid, 35–37% (food-grade FCC for food-contact installations)

Wear gloves and eye protection, and add the acid slowly to the water.

Descaling procedure

1. Open the gate valve until the flow reading is above 16 L/min.
2. Move the suction tube from the brine tank into the descaling solution.
3. Run the unit for 45 minutes. The acid dissolves deposits while the unit operates normally.
4. Return the suction tube to the brine tank and reset the flow to your working value.
5. Check that the real-time current has returned close to the set current. If not, repeat the procedure — up to three times in total. If it still does not recover, contact Logicwater; the cell may need replacing.

Routine checks

Interval	Task
Daily	Check undissolved salt in the brine tank; confirm RUN lamp and no alarm; check output with a test strip
Weekly	Compare real-time and set current; inspect joints and clamps for leaks
Monthly	Verify output and pH with a photometer and pH meter; replace the sediment cartridge when flow drops
As needed	Descale when current falls below 90% of setting

Logicwater support

- Email: info@logicwater.in
- Web: www.logicwater.in

Record your unit's serial number here for service calls: _____