The easy-HC10 handheld disinfectant maker and sprayer

User Manual

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1 PRODUCT DESCRIPTION

The easy-HC10 is an innovative handheld portable disinfectant manufacturing and spraying unit. Simply add a small amount of salt mixed with tap water and start spraying anti-microbial disinfectant onto surfaces instantly. 5 litres of high-quality disinfectant are dispensed per hour at a cost of less than 80 pence.

2 ITEMS IN THE BOX

1 – easy-HC10
2 – 2 litre reservoir
3 – 18 V 4 Ah battery
4 – Battery charger
5 – micro-Ion electrochemical reactor
6 – Adjustable shoulder strap
7 – Inlet tube and filter
8 – User manual
9 – 10x 5g sachets of salt

3 PRODUCT SPECIFICATION AND FEATURES

a) SPECIFICATIONS

Easy-HC10 specification	
Model name	easy-HC10
Warranty	1 year
Power type	Cordless
Sprayer type	Hand-held
Applications	Offices, gyms, transport, warehouses, hospitality etc.

Battery type	Rechargeable Lithium-ion
Battery voltage, capacity	18 V, 4 Ah
Run time	Up to 90 minutes
Battery charge time	60 minutes
Liquid to be added	Water + salt
Reservoir capacity	2 litres
Disinfectant type generated	Hypochlorous acid
Free chlorine concentration	Selectable: 45 ppm, 100 ppm or 150 ppm
Disinfectant dispense rate	80 ml/minute
Droplet size of spray	Average 100 micron
Life of Ion electrochemical reactor	>1000 litres at 150 ppm, more at lower concentration
Electrochemical reactor type	Replaceable
Product weight in use	3 kg empty, 5 kg with full reservoir
Product weight packaged for shipment	6 kg
Certifications	UKCA and CE marked

b) FEATURES

Runtime

The easy-HC10 disinfectant sprayer has an extended runtime due to its Li-ion battery, meaning it can run continuously for 90 minutes and can dispense 7.2 litres of disinfectant in that time.

Disinfectant strengths

Due to the easy-HC10's unique micro-Ion electrochemical reactor it has selectable disinfectant strengths to suit the user's application. 45 ppm for food contact surfaces, 100 ppm for everyday disinfecting and 150 ppm for deep cleans.

Large Reservoir

The easy-HC10 has a large 2 litre reservoir meaning it can spray disinfectant continuously for 25 minutes without needing a refill.

Front LED

Whilst spraying the easy-HC10 has a bright LED on the front designed to enable the user to see the spray therefore increasing coverage efficiency and reducing time spent disinfecting.

Replaceable micro-Ion electrochemical reactor

The micro-Ion electrochemical reactor can manufacture approximately 1000 litres of disinfectant at a concentration of 150 ppm and even more at lower concentrations. This micro-Ion electrochemical reactor can be easily and cheaply replaced by the user in under 5 minutes.

4 SAFETY INSTRUCTIONS

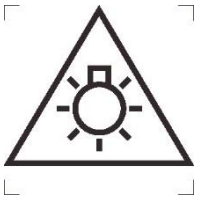
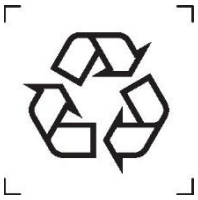
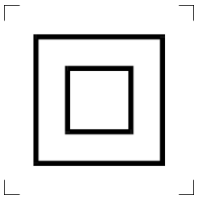
a) GENERAL SAFETY INSTRUCTIONS

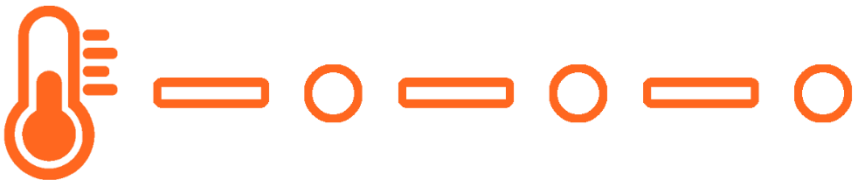
- Read all instructions before using the easy-HC10 sprayer.
- Do not touch or block any moving parts.
- To avoid damage and electrical shock do not place or submerge sprayer into water.
- Only use the charger supplied and approved by easy-HC10 for charging the battery.
- Use the charger on an elevated surface i.e., a desk or table to avoid risk of tripping.
- Only use salt concentrations stated by easy-HC10 to avoid inaccurate disinfecting strengths.
- Do not spray disinfectant directly at or onto people.
- Only use this with salt and water solutions, no other chemical or disinfectant should be put through the sprayer.
- Use appropriate PPE during usage of the easy-HC10 disinfectant sprayer
- The easy-HC10 should not be used in explosive environments under any circumstances as the device is not ATEX rated.
- Children shall not play or use the easy-HC10 disinfectant sprayer
- If the power supply cord is damaged it must be replaced by the manufacturer

b) HAZARDS AND CORECTIVE ACTIONS

Hazard	Corrective actions
Fire or chemical burns from malfunctioning Li-Ion battery	Ensure the battery is the correct battery for the sprayer and is supplied by easy-HC10
Allergic reaction or chemical irritation from contact with hypochlorous acid solution	Gloves and safety glasses should be worn to avoid chemical contact with skin
Saltwater solution sprayed on eyes/face	Gloves and safety glasses should be worn to avoid contact with eyes. But in the event of saltwater solution getting into a person's eyes, wash out immediately with fresh water
Hypochlorous acid solution sprayed on eyes/face	Gloves and safety glasses should be worn to avoid contact with eyes. Please refer to the MSDS which will contain emergency procedures
Use of incorrect starting solution i.e.: Using bleach instead of water Using greater salt concentration than recommended	Read instructions completely for correct method of reservoir filling and salt solution preparation
Ingestion of hypochlorous acid solution	Hypochlorous acid should not be ingested under any circumstances. If ingested drink water (two glasses at most), avoid vomiting (risk of perforation). Seek medical attention immediately.
Injury or sprain caused by improper use	To avoid injuries described the product should be held below shoulder height and the shoulder strap supplied should be used at all times.
Spraying the hypochlorous acid solution onto high voltage conductors	DO NOT spray the hypochlorous acid solution on battery boxes, electricity conduits, fan heaters, radiant electric heater, mains outlets, etc.
Working in confined spaces – PPE must be used for eye protection	Goggles must be used in confined spaces with a mask to protect eyes and respiratory tract from continued exposure

c) PRODUCT LABEL SYMBOLS AND MEANINGS

Symbol	Description
	Visible radiation, instructional safeguard WARNING: Do not stare into beam
	General symbol for recovery/recyclable To indicate that the marked item or its material is part of a recovery or recycling process
	Class II equipment To identify equipment meeting the safety requirements specified for Class II equipment according to IEC 61140
	For indoor use only To identify electrical equipment designed primarily for indoor use
	Temperature limit To indicate the maximum and minimum temperature limits at which the item shall be stored, transported, or used
	Waste Electrical and Electronic Equipment Regulation (WEEE) is a directive in the European Union that designates safe and responsible collection, recycling, and recovery procedures for all types of electronic waste
	Refer to instruction manual/booklet To signify that the instruction manual/booklet must be read

UKCA	The UK Conformity Assessed (UKCA) marking is a certification mark that indicates conformity with the applicable requirements for products sold within Great Britain
CE	CE marking is an administrative marking with which the manufacturer or importer affirms its conformity with European health, safety, and environmental protection standards for products sold within the European Economic Area
Charger light codes	
	The easy-HC10 battery is charging
	The easy-HC10 battery is fully charged
	easy-HC10 battery charger outside of working temperature range

5 INSTRUCTIONS

a) FUNCTION OVERVIEW

To release reservoir:

- Press the button on the off side of the product and gently pull down on the reservoir to release it for cleaning or refilling.

To install reservoir:

- Place reservoir on flat surface and then slide the sprayer down onto the top of the reservoir pushing down firmly until you hear a click form the reservoir lock button.

To remove the battery:

- Press down the big grey button on the back of the battery and pull away from the sprayer firmly.

To install the battery:

- Line up the battery to the back of the sprayer and push firmly inwards towards the handle until a click is heard and the battery is secured.
- To check the battery is in properly perform a quick press of the trigger, this will cause the membrane keypad to light up if the battery is installed correctly.

Membrane keypad usage:

- The three different disinfectant strengths are selectable by using the orange button to cycle through them, a blue LED will be lit when a specific strength is selected. 45 ppm is for food surfaces and sensitive areas. 100 ppm is for everyday disinfecting and cleaning. 150 ppm for deep cleans. If no lamps are illuminated the electrochemical reactor will be OFF and therefore inactive.

- The battery icon displays the battery level using 3 green LEDs. If all 3 are lit the battery is fully charged. If 1 LED is lit the battery needs to be charged.

Trigger usage

- Press and hold the trigger for the sprayer to function. The sprayer has an orange button next to the trigger that will lock the sprayer on if pressed when the trigger is fully engaged. This is to make large-area disinfecting easier and efficient. To disengage the trigger lock firmly press the trigger down and the lock button will click out and the sprayer will turn off.
- A quick press of the trigger will engage the membrane keypad for battery level check and pre-spray disinfectant strength selection.

b) OPERATION INSTRUCTIONS

1. Firstly, make sure the 18 V 4 Ah battery is fully charged using the charger supplied
2. Now fill the reservoir with 2 litres of tap water and add the 5 g sachet of sodium chloride (salt) and shake well. **DO NOT USE ANY OTHER STARTING SOLUTIONS EXCEPT THE RECOMMENDED QUANTITY OF SALT.**
3. Next, install the fully charged battery and reservoir onto the sprayer making sure both are secured properly.
4. Now quickly press the trigger in and out to engage the membrane keypad then select your desired disinfectant strength using the orange button on the keypad.
5. Finally, hold down the trigger and within seconds you will be spraying high-quality disinfectant (hypochlorous acid)

c) SALT SOLUTION INSTRUCTIONS

1. Per litre of tap water (at room temperature) 2.5 grams of sodium chloride needs to be added for the easy-HC10 to function correctly and accurately.
2. The reservoir supplied with the easy-HC10 is a 2-litre reservoir therefore the sodium chloride sachets supplied by easy-HC10 are 5-gram sachets. This means only one sachet is needed per reservoir.
3. After the sodium chloride sachet has been added into the water screw the cap on and shake well before use.
4. We recommend the use of easy-HC10 supplied sodium chloride sachets as it is more convenient, and they are premeasured to have the correct amount of salt for a full reservoir. The easy-HC10 sachets also have a small amount of additive to reduce limescale build up in hard water areas.

d) micro-Ion REPLACEMENT INSTRUCTIONS

The micro-Ion electrochemical reactor is a consumable item with a finite life. It will produce at least 1000 litres of disinfectant (hypochlorous acid) at the highest strength level before it needs replacing. 1000 litres of disinfectant will equate to over 200 hours of continuous disinfecting. When the micro-Ion needs replacing an LED will be lit on the membrane keypad.

3. Once the Ion covering cap has been removed pinch both sides of the reactor and pull directly outwards to remove it from the easy-HC10. Now replace it with a new one and repeat steps 1 and 2 in reverse

e) TROUBLESHOOTING

Problem	**Root cause**	**Solution**
Device not working	No power	Check that the battery is properly installed Check that the battery is charged
Uneven spraying mist	easy-HC10 vent is blocked	Check air inlet vent is not covered
No disinfectant spraying	No fluid in the reservoir	Make a solution
	Filter is blocked	Clean filter or replace inlet tube and filter
No disinfectant is being made	The micro-Ion is at the end of its life	Replace the micro-Ion reactor
"DESCALE" LED illuminated	The micro-Ion reactor: • Has become contaminated by limescale from hard water. • Has reached the end of its life	Purchase a descale kit for your easy-HC10 and follow the instructions to descale If descale does not correct the status of the LED, purchase a replacement micro-Ion reactor, following the replacement instructions in the manual
"CHECK" LED Illuminated	The micro-Ion electrochemical reactor does not have electrical connection, the possible causes are: • There is no saltwater in the reservoir • The micro-Ion has been incorrectly installed or is missing. The cover has been left off	• Fill the reservoir with saltwater solution • Re-install or replace the micro-Ion following the instructions Put the cover back over the back of the easy-HC10 following the instructions

6 FREQUENTLY ASKED QUESTIONS

Q) What is the required time for the hypochlorous acid biocide to have an effect?

A) Our Independent lab testing shows that with just 5 minutes contact time with hypochlorous acid 99.9% of bacteria, viruses and yeast will be killed.

Q) How long should I leave between applications of the biocidal product?

A) There is no set time before an area can be disinfected again. We recommend disinfecting areas at least once a day, but an area might need more disinfecting depending on the turnover of people.

Q) How long should an area be left after disinfecting before being accessed by humans?

A) The area can be accessed as soon as the disinfecting has been completed.

Q) Does the area that has been disinfected need to be left to ventilate?

A) No ventilation is required after an area has been disinfected.

Q) Does the easy-HC10 need cleaning or maintenance?

A) It is best to pump a small amount of tap water through the easy-HC10 and then empty the reservoir and run the easy-HC10 dry to make sure no residual liquid is left in the system. This is best to do after every use.

Q) How frequently should I be disinfecting?

A) At least once daily but it is dependent on the user's application.

7 ONE YEAR WARRANTY

The easy-HC10 has a one-year warranty against any disfunction during that period. The device will either be replaced or fixed within the terms of warranty for manufacturing defects. Any damage caused by the following issues will not be covered by the warranty:

- Not using the product in accordance with the instructions indicated in this manual
- Damage resulting from user error, such as dropping
- Incorrect use of charger for the battery
- Use of parts not provided by manufacturer
- micro-Ion electrochemical reactor. This is warrantied for 1000 litres of hypochlorous acid generation only

8 DISCLAIMER

Since in aqueous solution active chlorine is generated from sodium chloride by electrolysis to give an equilibrium of chlorine, hypochlorous acid and hypochlorite anion, which is pH and temperature dependent, classification for active chlorine is not feasible.

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