Electrolytic generation of hypochlorite without additives or auxiliaries.
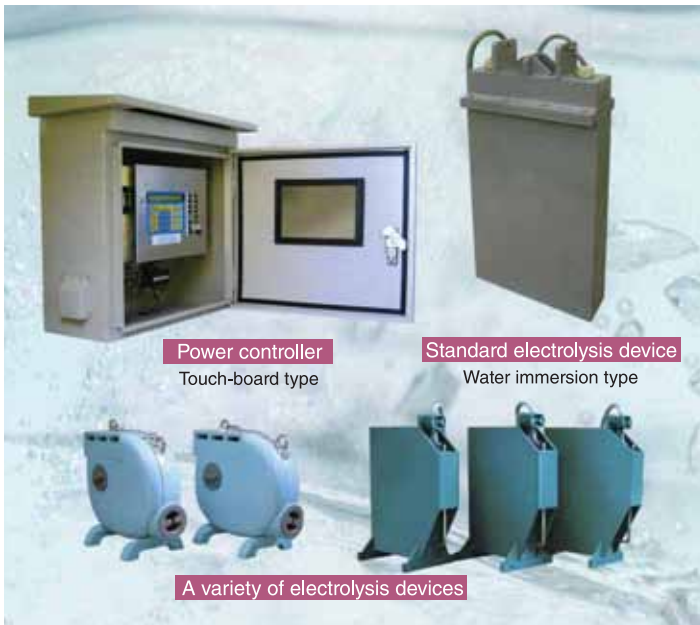
Hypochlorite Generator

Features

▌The electrolytic decomposition of chlorine ions in water forms sodium hypochlorite and hydrogen. The sodium hypochlorite turns into hypochlorous acid (HClO) in the water, providing an effective means of disinfection.

Electrolysis device

Power controller
Touch-board type

Standard electrolysis device
Water immersion type

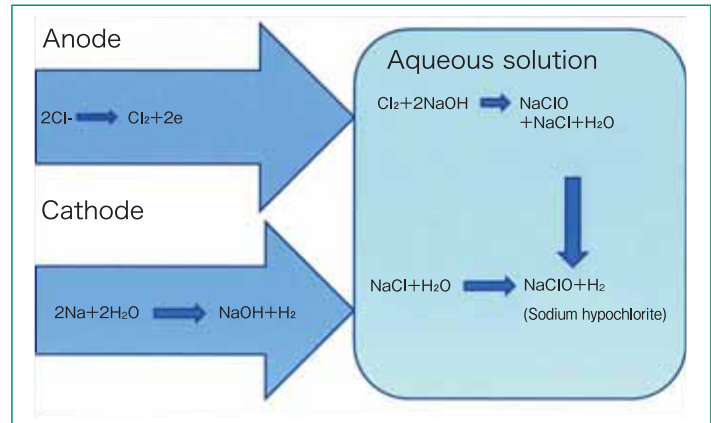A variety of electrolysis devices

Hypochlorite Generator Models

Anode

$2Cl^- \longrightarrow Cl_2 + 2e$

Cathode

$2Na + 2H_2O \longrightarrow NaOH + H_2$

Aqueous solution

$Cl_2 + 2NaOH \longrightarrow NaClO + NaCl + H_2O$

$NaCl + H_2O \longrightarrow NaClO + H_2$
(Sodium hypochlorite)

Principle of operation of electrolysis system (1)

- Sodium hypochlorite
- Hydrogen
- Chlorine
- Caustic soda

Power source

Cathode   Anode

Principle of operation of electrolysis system (2)

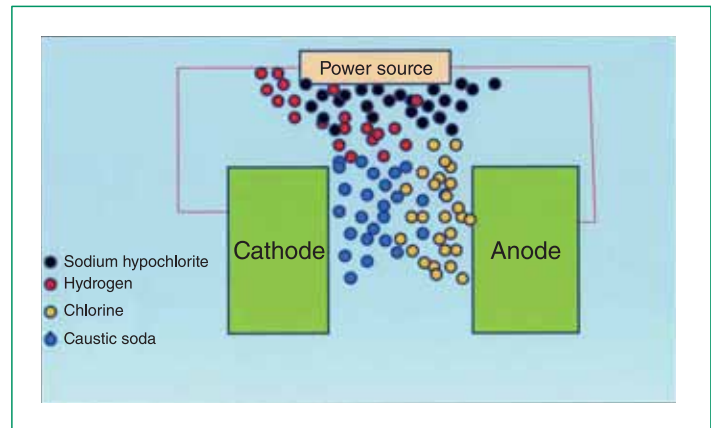## Overview (Technical principles, actions, etc.)

Hypochlorite Generator

Tap water normally contains a minute quantity of chlorides. When the chlorine ions are used for non-membrane electrolytic decomposition, chlorine (Cl_2) will be generated from the anode side while NaOH (caustic soda) and hydrogen (H_2) will be produced from the cathode side. The hydrogen in the state of gas will be vented into the atmosphere. The chlorine and caustic soda will react immediately in the liquid, thus producing sodium hypochlorite (NaClO), which will provide a disinfectant effect.
Refer to the diagrams in Principles of **Operation (1)** and **(2)**.

Introductory Track Record

■ **Monks from the Ichinyoan Hermitage of Todaiji Temple in Nara, Japan volunteered to dig wells in Cambodia and secure safe drinking water. Eight-Tec assisted them with the hypochlorite generator.**

■ **Yamaha Motor Co., Ltd. adopted the hypochlorite generator for the disinfection equipment of their mini-water purification plant to secure safe water for domestic use in Indonesia.**

Effects

◎**Hypochlorite Generator**
The chlorine concentrations in water will be decreased if the water is stored in a distribution reservoir or water storage tank. The hypochlorite generator reliably makes drinkable water by increasing the disinfection effect of the water with the use of electrolytic decomposition and boosting the low chlorine concentrations in the water without adding chemical solutions.

Applicable field
Waterworks facilities and water storage tanks

Water

Energy saving/Energy recovery

Energy storage/Energy creation

Energy

New energy

Waste disposal/ Recycle/ Resource saving

Air

Soil

Other