

#### 盐水精制系统

◎ 我司的盐水精制装置采用独特的设计工艺，软水经过盐层后，再进行砂滤层，砂滤层可以截留大量原料中的杂质，这样可以确保制备出的饱和盐水洁净度高，并且氯化钠浓度不低于300g/L。对于用盐量大的系统我司设计的吨袋加盐方式可以降低用户的操作强度，方便运行操作及维护。

#### Brine refining system

◎ Our brine refining device adopts a unique design process. After the soft water passes through the salt layer, the sand filter layer is applied. The sand filter layer can retain a large number of impurities in the raw materials, which can ensure the high cleanliness of the prepared saturated brine, and the concentration of sodium chloride is not less than 300g/L. For systems with a large amount of salt, the way of adding salt in tons of bags designed by our company can reduce the user's operation intensity and facilitate operation, operation and maintenance.

#### 电源系统

◎ 采用高性能的高频整流电源，通过高频整流技术控制，确保电解过程中输出稳定且恒定的电流，确保了电化学过程的稳定性。

#### Power supply system

◎ High-performance high-frequency rectifier power supply is used, which is controlled by high-frequency rectification technology to ensure a stable and constant current output during the electrolysis process, ensuring the stability of the electrochemical process.

#### 仪表及控制系统

◎ 将各种仪表及控制系统相结合，采用具有新奥自主知识产权的控制软件，整个系统为全自动化运行，系统的各项保护功能均设置了2重以上，确保了系统的安全和稳定性，并且整个系统的运行及报警输出均可以通过各种通讯接口传输，满足客户各种需求。

#### Instrument and Control System

◎ Combining various instruments and control systems, using control software with ENN's independent intellectual property rights, the entire system is fully automated, and each protection function of the system is set to more than 2 layers to ensure the safety and stability of the system. And the operation and alarm output of the whole system can be transmitted through various communication interfaces to meet various needs of customers.

#### 储罐及脱氢系统

◎ 储罐及脱氢系统主要由深色储罐，脱氢风机，风量仪表，风机自动切换装置，液位仪表等组成，主要用于将电解产生的氢气经过稀释后安全排放。

#### Storage tank and dehydrogenation system

◎ The storage tank and dehydrogenation system are mainly composed of dark storage tank, dehydrogenation fan, air volume meter, fan automatic switching device, liquid level meter, etc., which are mainly used to dilute the hydrogen produced by electrolysis. emission.

#### 次钠投加系统

◎ 根据使用环境的不同，次氯酸钠配套不同的投加系统，针对水厂的次钠投加系统，采用我司专业的精准化投加装置，实现药剂节约，精准加药。

#### Subsodium Dosing System

◎ According to the different use environments, sodium hypochlorite is equipped with different dosing systems. For the secondary sodium dosing system in water plants, our professional precise dosing device is used to achieve pharmaceutical savings and precise dosing.



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新奥环境  
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## HIC SERIES SODIUM HYPOCHLORITE GENERATOR Hic系列次氯酸钠发生器

广州新奥环境技术有限公司  
NEAO Guangzhou Environmental Technology Co.,Ltd



# Hic系列次氯酸钠发生器

## Hic series Sodium Hypochlorite Generator



### ◆ 次氯酸钠消毒介绍

#### Introduction of Sodium Hypochlorite Disinfection

目前，城镇自来水厂消毒通常采用氯气、二氧化氯、臭氧、次氯酸钠等化学消毒法，其中氯气消毒因其价格低，持续消毒能力强而被广泛采用。但氯气消毒存在的安全风险日益受到关注。次氯酸钠消毒具有广谱高效的消毒效果，其消毒能力与氯相近，产品形态为低浓度液态，不属于危险品范畴，避免了氯气、二氧化氯等消毒工艺存在的有毒气体泄漏、危险品运输等安全隐患，因此在自来水厂中逐步得到应用推广。

At present, chemical disinfection methods such as chlorine, chlorine dioxide, ozone, and sodium hypochlorite are usually used for disinfection in urban waterworks. Among them, chlorine disinfection is widely used because of its low price and strong continuous disinfection ability. However, the safety risks of chlorine disinfection have received increasing attention. Sodium hypochlorite disinfection has a broad-spectrum and high-efficiency disinfection effect. Its disinfection ability is similar to that of chlorine. The product form is a low-concentration liquid state, which does not belong to the category of dangerous goods. It is a potential safety hazard, so it has been gradually applied and promoted in water plants.

### ◆ 次氯酸钠发生器介绍

#### Introduction of Sodium Hypochlorite Generator

现场生产次氯酸钠是一种使用盐（工业精盐/食品级精盐）、水和电这三种常规物质的简单、易行的消毒工艺。次氯酸钠发生器生产和研制有一百多年的历史，已经被证明是一种安全、可靠、运行成本较低、药物投加准确、消毒效果极佳的设备。

On-site production of sodium hypochlorite is a simple, easy-to-use disinfection process using three conventional substances: salt (industrial refined salt/food grade refined salt), water and electricity. The production and development of sodium hypochlorite generator has a history of more than 100 years, and it has been proved to be a safe, reliable, low operating cost, accurate drug dosing and excellent disinfection equipment.



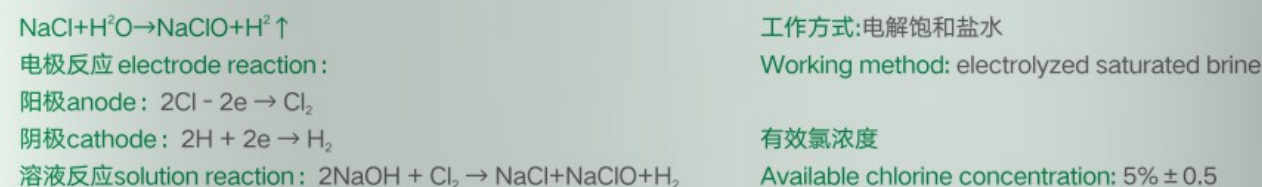
# 产品介绍

## Product Description

### ◆ Hic系列次氯酸钠发生器的原理

#### The principle of Hic series sodium hypochlorite generator

Hic系列的次氯酸钠发生器是一套由饱和盐水（24%-25%）通过通电电极发生电化学反应以后生成次氯酸钠溶液的装置。其总反应表达如下：  
The sodium hypochlorite generator of Hic series is a set of devices that generate sodium hypochlorite solution by electrochemical reaction of saturated brine (24%-25%) through electrified electrodes. The overall response is expressed as follows:



### ◆ 原料说明

#### Raw material description

#### 盐

根据《GB 2823-2020》次氯酸钠发生器卫生要求:应使用未加碘精盐。专用于污水处理的，应符合《GBT5462》的规定，其他用途的应符合《GB2721》的规定。

#### 水

原水水质采用符合《生活饮用水卫生标准》GB5749-2006，水温范围需满足10-26℃，对于水温条件不满足的地区，需配套采购加热/冷却装置，以确保进水温度满足设备要求。

#### 电

AC380V/220V ± 10%，50Hz。

#### Salt

According to "GB 2823-2020" hygienic requirements for sodium hypochlorite generators: uniodized refined salt should be used. Those specially used for sewage treatment shall comply with the provisions of "GBT5462", and those used for other purposes shall comply with the provisions of "GB2721".

#### Water

The raw water quality is in line with the "Drinking Water Hygiene Standard" GB5749-2006, and the water temperature range needs to meet 10-26 °C. For areas where the water temperature conditions are not met, a heating/cooling device needs to be purchased to ensure that the inlet water temperature meets the equipment requirements.

#### Electricity

AC380V/220V ± 10%, 50Hz.

### ◆ 主要构成部件

#### Main components

软水系统、盐水精制系统、发生器系统、电源系统、仪表及控制系统、储存及脱氢系统、次氯酸钠投加系统。

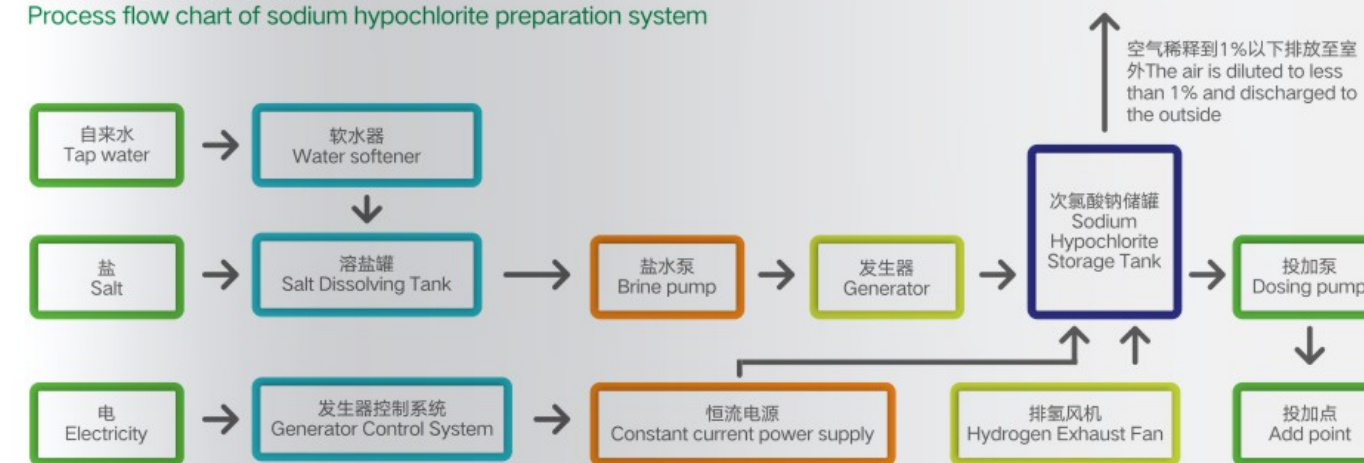
Soft water system, brine refining system, generator system, power supply system, instrumentation and control system, storage and dehydrogenation system, sodium hypochlorite dosing system.

### ◆ 工艺流程

#### Process flow

#### 次氯酸钠制备系统工艺流程图

#### Process flow chart of sodium hypochlorite preparation system



### ◆ 产品优势

#### Product Advantages

- 比传统的电解稀盐水的次氯酸钠发生器有效氯浓度高6-8倍，设备占地面积更小；
- 5%的次氯酸钠溶液不属于危化品，浓度高，按同样当量化的有效氯计算，溶液体积远低于0.8%的次氯酸钠溶液，因此可以满足客户运输的需求；
- 消毒液中氯酸盐和亚氯酸盐远低于低浓度的发生器；
- 消毒液的生产成本比低浓度的次氯酸钠发生器低40%，每kg有效氯生产成本低于4.5元；
- 采用特殊材料设计的隔膜，隔膜的寿命可达3-5年；
- The effective chlorine concentration of the sodium hypochlorite generator is 6-8 times higher than that of the traditional electrolytic dilute salt water generator, and the equipment occupies a smaller area;
- 5% sodium hypochlorite solution is not a hazardous chemical, and its concentration is high. Calculated according to the same equivalent amount of available chlorine, the solution volume is much lower than that of 0.8% sodium hypochlorite solution, so it can meet the needs of customers for transportation;
- The chlorate and chlorous acid in the disinfectant are much lower than the generator with low concentration;
- The production cost of disinfectant is 40% lower than that of low-concentration sodium hypochlorite generator, and the production cost per kg of available chlorine is lower than 4.5 yuan;
- The diaphragm is designed with special materials, and the life of the diaphragm can reach 3-5 years;

### ◆ 组成部分的介绍 Introduction of the components

#### 软水系统

- 通过离子交换树脂吸附自来水中的钙镁离子，从而降低水中钙、镁离子含量，延长电解过程中电极板表面结垢。根据水质的区别分为一级软化和多级软化。
- 进水硬度: ≤350mg/L(以CaCO3计)采用一级软化工艺；
- 进水硬度: >350mg/L(以CaCO3计)采用多级软化工艺；
- 出水硬度: ≤10mg/L(以CaCO3计)
- 按照以上参数可以确保发生器满负荷的条件下酸洗周期大于6个月；

#### Soft water system

- The calcium and magnesium ions in tap water are adsorbed by ion exchange resin, thereby reducing the content of calcium and magnesium ions in the water and prolonging the scaling on the surface of the electrode plate during the electrolysis process. According to the difference of water quality, it is divided into one-level softening and multi-level softening.
- Inlet water hardness: ≤350mg/L (calculated as CaCO3) using a first-level softening process;
- Inlet water hardness: >350mg/L (calculated as CaCO3) using multi-stage softening process;
- Water hardness: ≤10mg/L (calculated as CaCO3)
- According to the above parameters, it can ensure that the pickling cycle is longer than 6 months under the condition of full load of the generator;