

Energy-saving equipment to process wastewater and recover valuable substances.

# Evaporating Concentrator

## Features

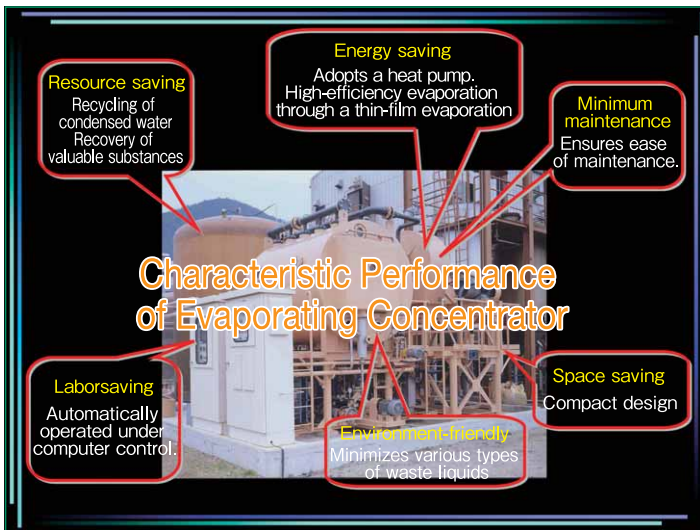
- Reduces the cost of industrial waste disposal and recovers valuable substances and water from wastewater.
- Energy-saving equipment utilizing an ejector and heat pump.
- Reduces approximately 85% of the energy cost and 90% of the CO<sub>2</sub> emissions of conventional equipment on the condition that wastewater is processed at the rate of 50 m<sup>3</sup> per day.

## Overview

(Technical principles, actions, etc.)

### 1. Performance Characteristics of Sasakura's Evaporating Concentrator

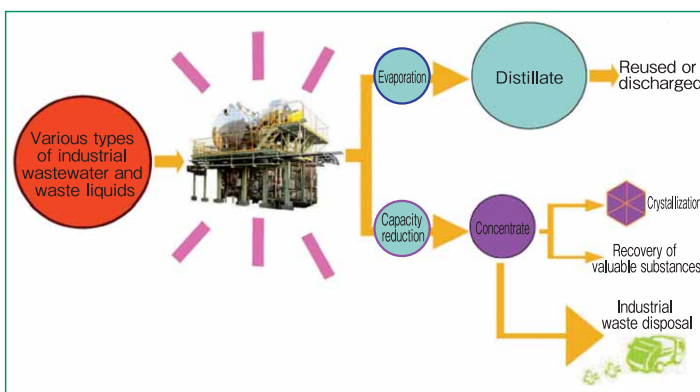
A waste liquid circulates through an evaporator tank in a vacuum state and evaporates at the tube surface.



Characteristic Performance of Evaporating Concentrator

### 2. Image of Waste Liquid Treatment

Evaporated steam is compressed by a heat pump and reused as a heat source.



Flow of Waste Liquid Treatment

### 3. Concentration Technology with Excellent Energy-saving Performance

~ Concentrator of Heat Pump Type ~

Evaporated steam is compressed with a heat pump and used as a heat source to recycle almost 100% of the steam.

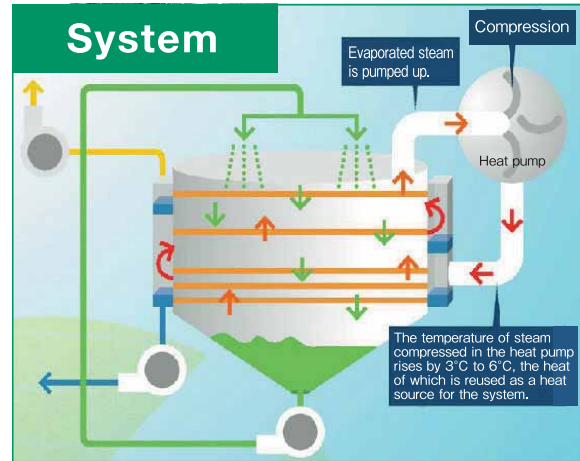


Illustration of System

The steam in the tube changes into distillate and the circulating waste liquid is concentrated and discharged out of the system.

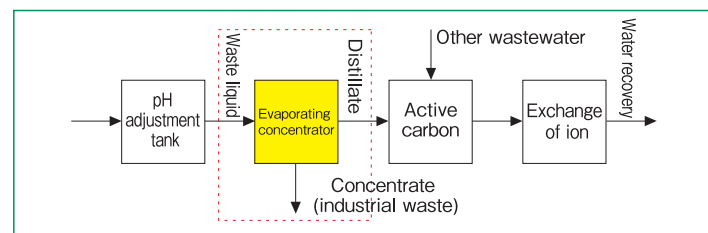
## Introductory Track Record

- Korea: 21 units** for recovery of NaOH and KI or disposal of waste liquids, such as waste alcohol solution and yeast solution.
- Taiwan: 15 units** for recovery of water, KI, and TMAH or treatment of waste liquids, such as waste copper sulfate solution.
- China: 12 units** for treatment of waste liquids, such as waste copper sulfate solution, plating solution, mold release agent solution, or fat fluid mixed with soapsuds.
- Thailand: 7 units** for treatment of waste liquids, such as waste water-soluble cutting oil, nickel sulfate solution, plating solution, or mold release agent solution.
- India: 3 units** for treatment of waste liquids, such as waste plating solution or printing fluid.
- Singapore: 2 units** for capacity reduction of waste liquids, such as waste HD production liquid.
- Vietnam: 1 unit** for treatment of waste ammonium chloride solution.
- Philippines: 1 unit** for treatment of waste mold release agent solution.

## Effects

### ◎ Example of Processing Waste Plating Solution in Automobile Industry

An automobile plant used to discharge waste plating fluid into a river from its plating stage after chemical treatment and biological treatment, which involved chemical and sludge treatment costs. Furthermore, the supply of cleaning water to the plating process was necessary. Then the factory introduced Sasakura's evaporating concentrator, started recycling water from the plating stage, and succeeded in closing the outlet of the wastewater. Since then, no wastewater has been discharged into the river.



## Sasakura Engineering Co., Ltd.

Water Industries Division, Water Industries Marketing Sect. 4-7-32 Takeshima, Nishiyodogawa-ku, Osaka 555-0011

● TEL / +81-6-6473-2930 ● FAX / +81-6-6473-4290 ● E-Mail / y.maeda@skm.sasakura.co.jp ● http://www.sasakura.co.jp/