

SASAKURA

EVAPORATING CONCENTRATOR



Sasakura Engineering
website



<https://www.sasakura.co.jp>

Evaporative Concentrator
website



<https://www.sasakura.co.jp/technology/products/category/3>



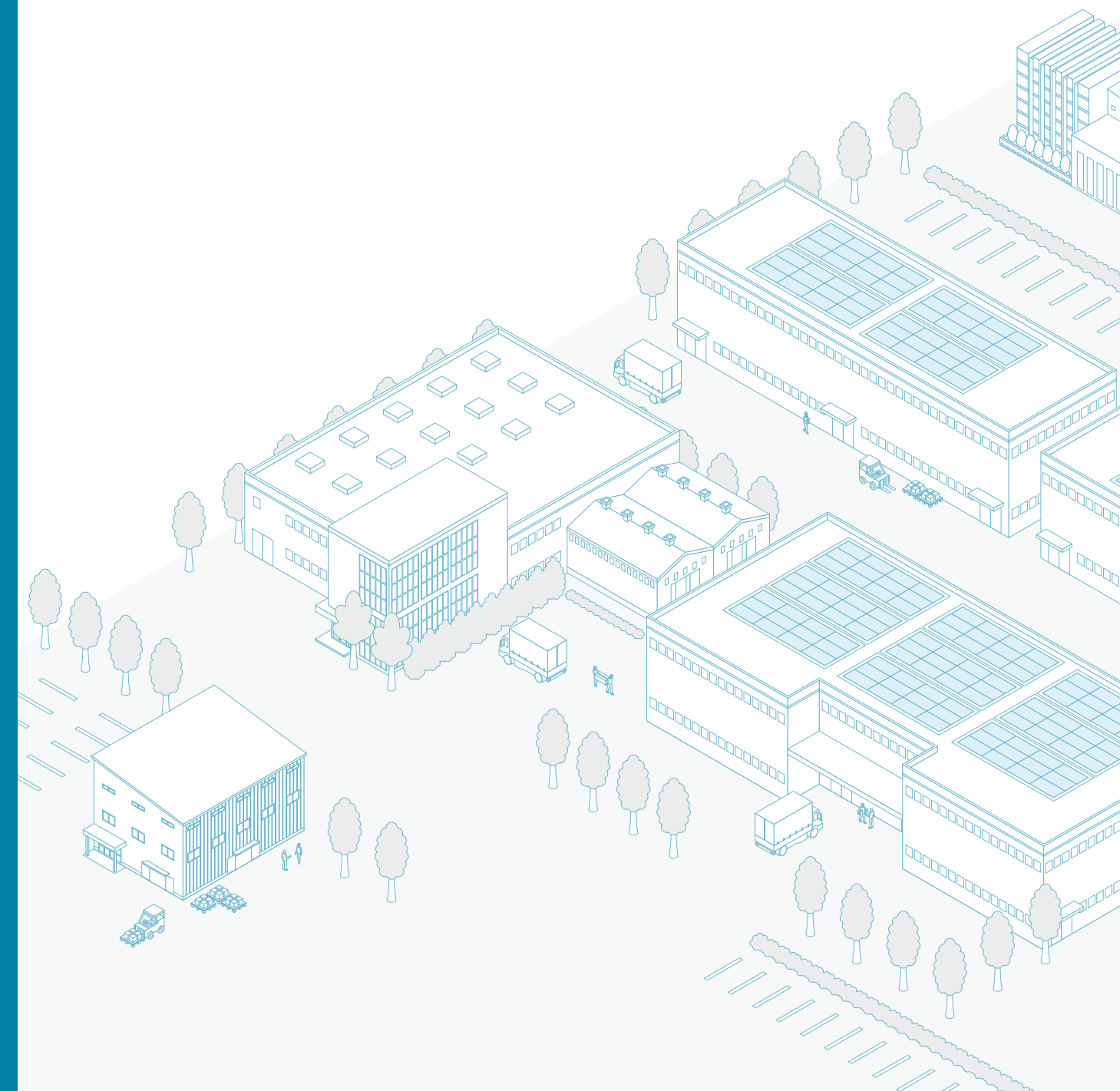
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■ Water Treatment Division



Water treatment becomes carbon neutral

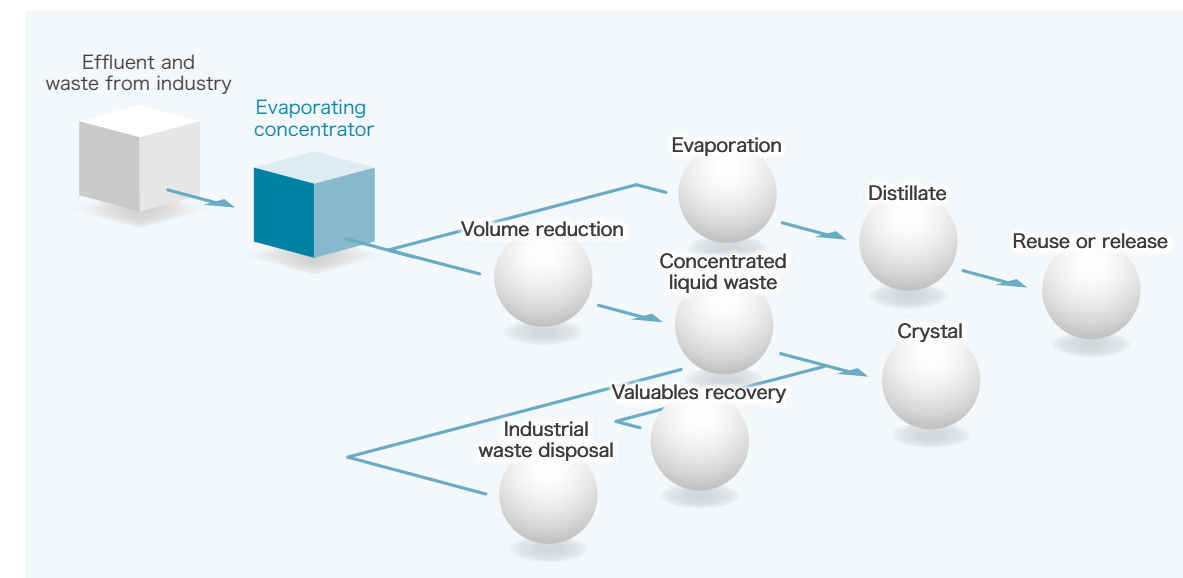
Sasakura was founded in 1949 and is working on technologies in the fields of water, heat, and sound, including water production equipment for shipments.

In the field of water, Sasakura's evaporating concentrator was developed by applying the technology of land-based sea-water desalination plant, which supports life in Middle Eastern countries, to water treatment.

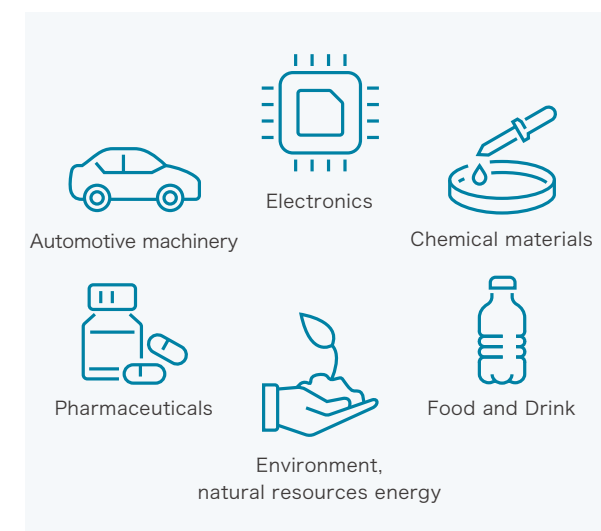
Since we started selling of evaporating concentrators in 1987, we have started to reduce the volume of factory waste-water, and now we are providing services to many customers who require evaporative concentration processes, such as concentration adjustment on production lines, recycling by recovering organic solvents, and ZLD systems etc..

The evaporating concentrator has received high praise from Japanese government, winning the Energy Conservation Grand Prize in 2019 and being registered as an LD-Tech certified product by the Ministry of the Environment, and will continue to be a carbon-neutral product. We will contribute to the realization of a circular economy.

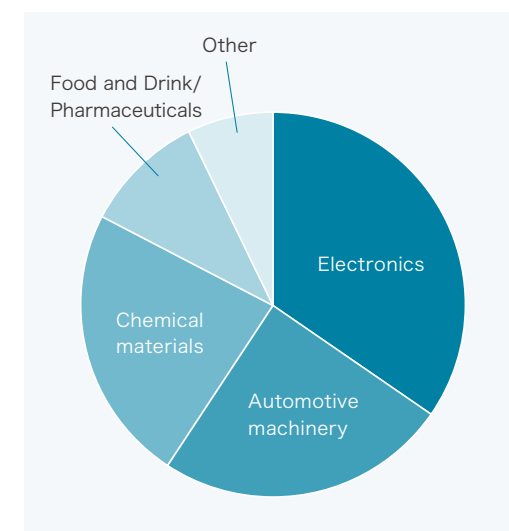
Image flow diagram of processing



Primary market



Installation over the past 5 years



SASAKURA's strengths

Compressor designed and manufactured in-house that provides high energy savings

We focused on the waste heat (generated steam) generated during the concentration process and realized the reuse of waste heat by Compressor.

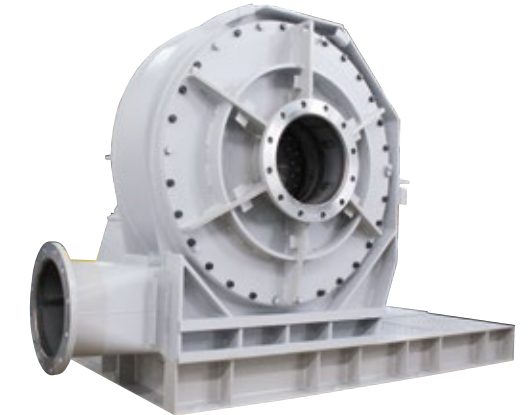
As the only evaporating concentrator's manufacturer in Japan, we design and manufacture Compressor suitable for the evaporative concentration process in-house.

Therefore, maintenance can be performed on-site in a short period of time, reducing the burden on customers.

Compressor can raise the temperature of saturated steam up to 11.5°C with an intake fluid temperature of 70°C.

We have a wide variety of Compressor in stock, and also offer suggestions for retrofitting MVR* by installing Compressor.

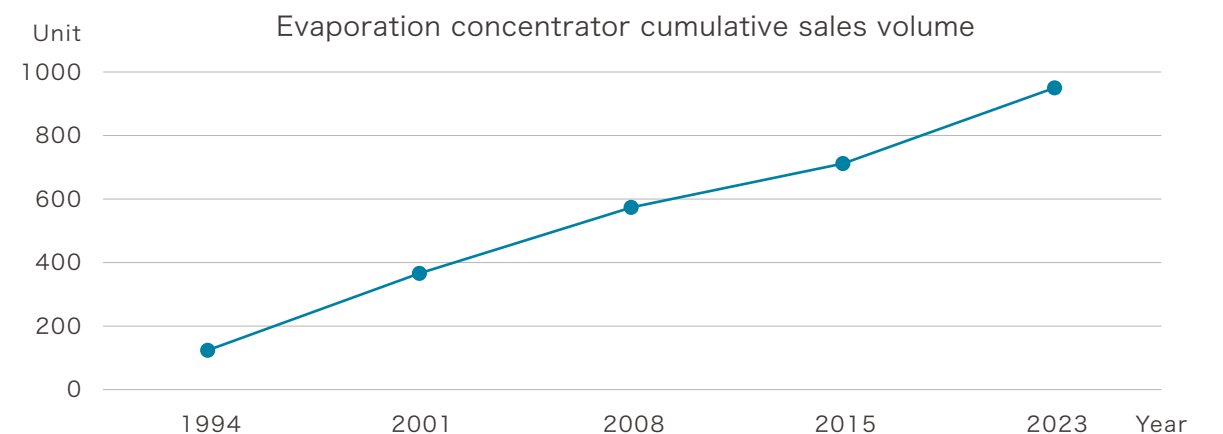
*MVR (Mechanical Vapor Recompression) is a system that recompresses waste heat and reuses it as a heat source.



In-house turbo Compressor

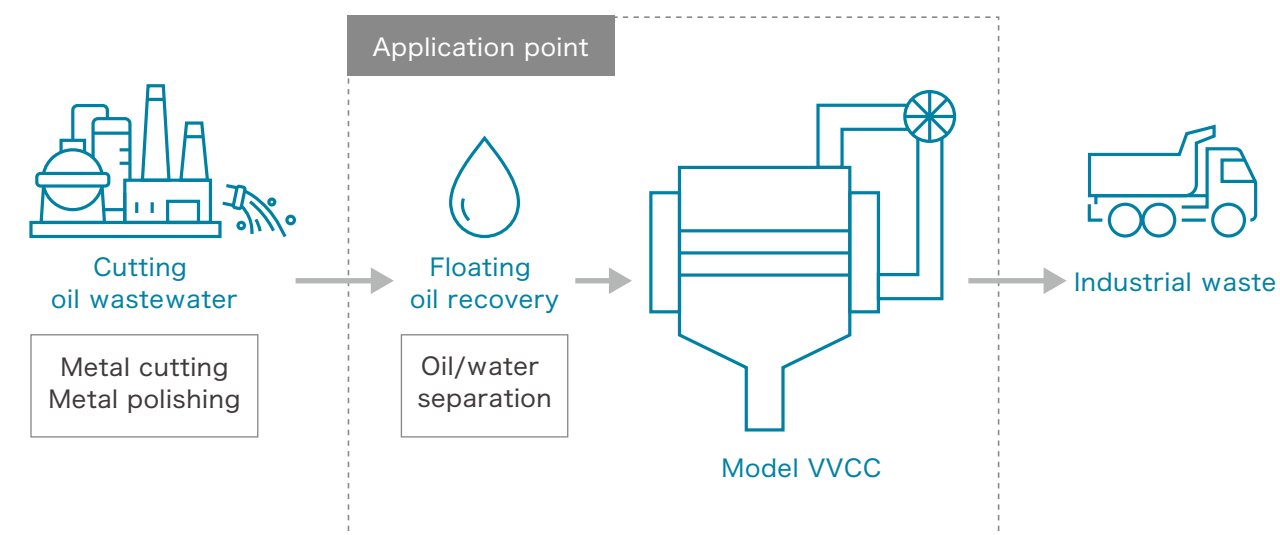
Reasons why SASAKURA

1. Ease of operation with fully automated system
2. Fewer equipment problems over the long term
3. Energy savings through the use of Compressor
4. After-sales service
5. Products Eligible for Energy Conservation Subsidies

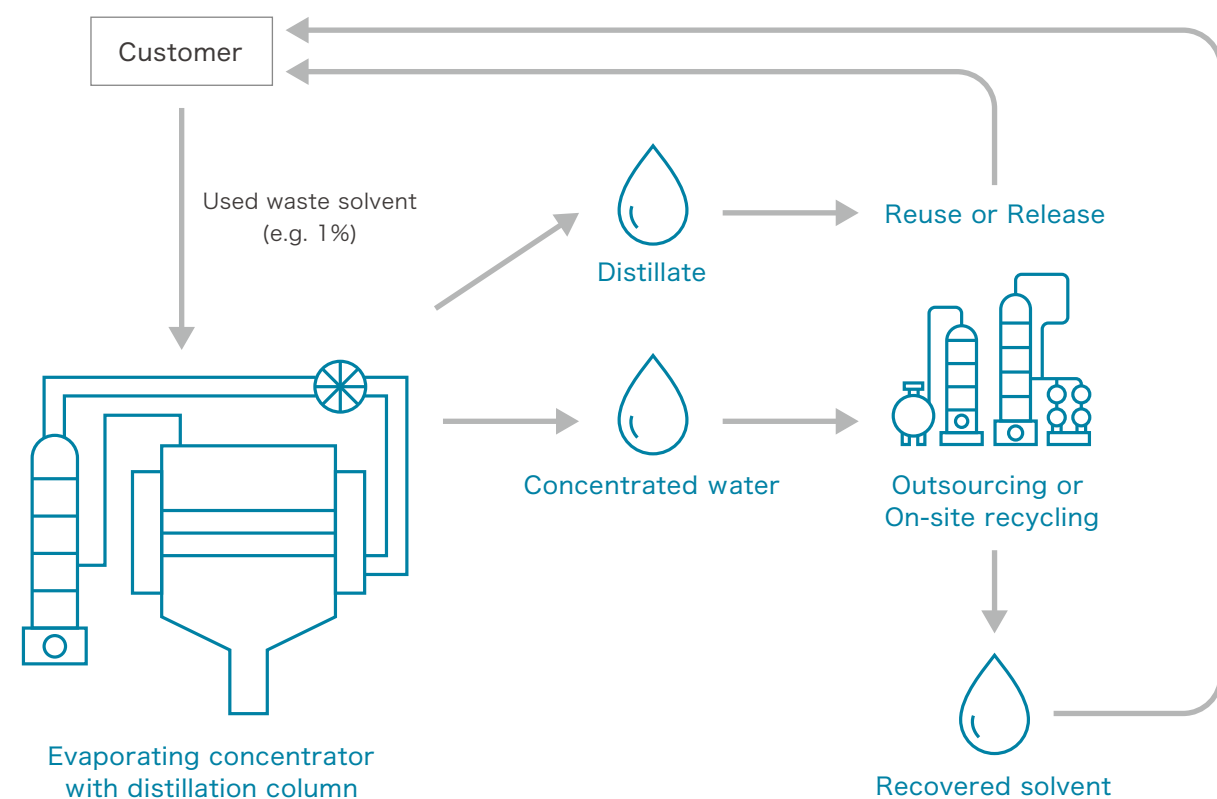


Domestic sales base 7 locations	Overseas sales base 4 locations	Production/development base 5 locations	Employees (consolidated) 480 <small>*As of March 2024</small>
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Volume reduction case



Solvent recovery case

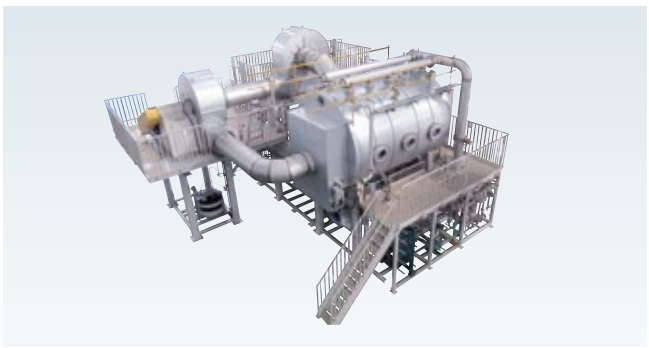


Industry

Electronics	Pure water regeneration wastewater/ RO concentrate recovery
	TMAH recovery
	Plating wastewater
	Copper sulfate concentration adjustment
	BHF wastewater
Automotive	KI recovery
	Coolant cutting wastewater
	Template agent wastewater
	RO brine
Chemical/Metal	Painting wastewater
	Ammonium nitrate recovery
	Hydrochloric acid recovery
	Ammonia recovery
	Li recovery
	Caustic soda recovery
Food/Medical	Nonferrous metals recovery
	Tea, beverage concentrate
	Pork, chicken extract concentrate
	Sugar solution concentrate
	Yeast culture solution concentrate
	HPAPI wastewater

Purpose

Concentrated crystals	Ammonium chloride recovery
	Ammonium sulfate recovery
	Chloride recovery
Solvent recovery	NMP
	DMAC
	DMF
	DMSO
Others	Biomass power generation digestive fluid
	Produced water concentrate
	Wastewater containing high concentration salts
	Leachate concentrate
	ZLD(Zero Liquid Discharge)



VVCC-T-240E



VVCC-30+RHC-3F



RVCC-5FBE



VVCC-17

Model VVCC MVR adopted

VVCC is an energy-saving equipment suitable for large-capacity concentration processing.
In recognition of its significant energy savings, it received the Energy Saving Award from Japanese government in 2019.
In addition, the product is certified in the LD-Tech application registration which proves high energy efficiency every year.
All-electric support is also available by installing electric heaters.



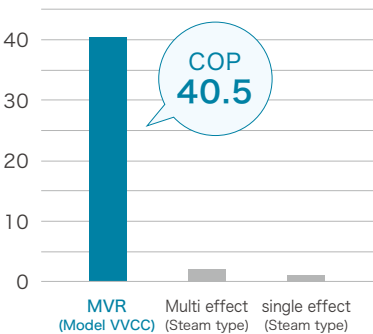
VVCC-90

Capacity & Size

Evaporation amount (t/d)	15T/D	30T/D	65T/D	100T/D	200T/D
Steam consumption (kg/hr)	10	10	10	30	40
Consumption/Rated power (kW)	30/40	60/70	85/95	125/140	210/245
W×L×H (m)	3.5*5.0*4.0	4.5*6.0*5.0	5.0*7.5*5.5	6.5*7.5*6.0	8.0*10*6.5

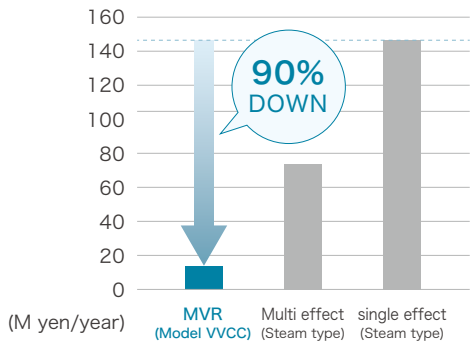
* Please note that equipment size and power may vary depending on liquid conditions, etc.

High COP



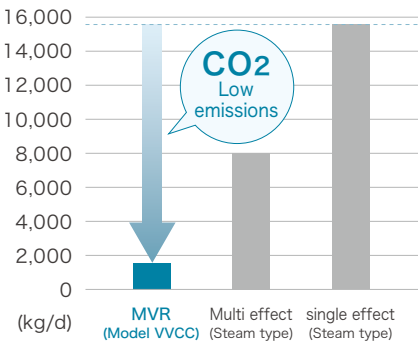
COP comparison table*1

Low running cost



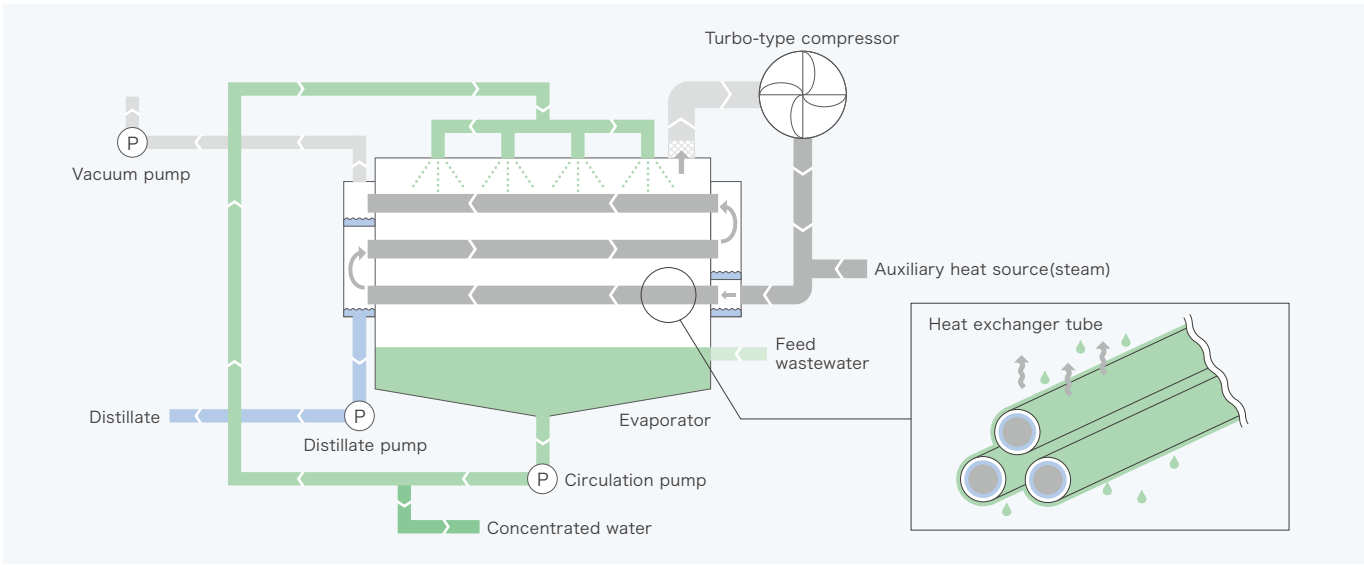
Running comparison table*2

CO2 saving



CO2 comparison table

*1 COP=Coefficient of Performance *2 Estimation example : 100 tons/day processing, electricity unit price JPY15/kW, steam unit price JPY5/kg



Model RVCC MVR adopted

A roots-type compressor that achieves high compression is applied.
In combination with a flash evaporator, it can be applied to highly concentrated and highly viscous liquids.
It can also handle higher boiling point rise.
All-electric support is also available by installing electric heaters.

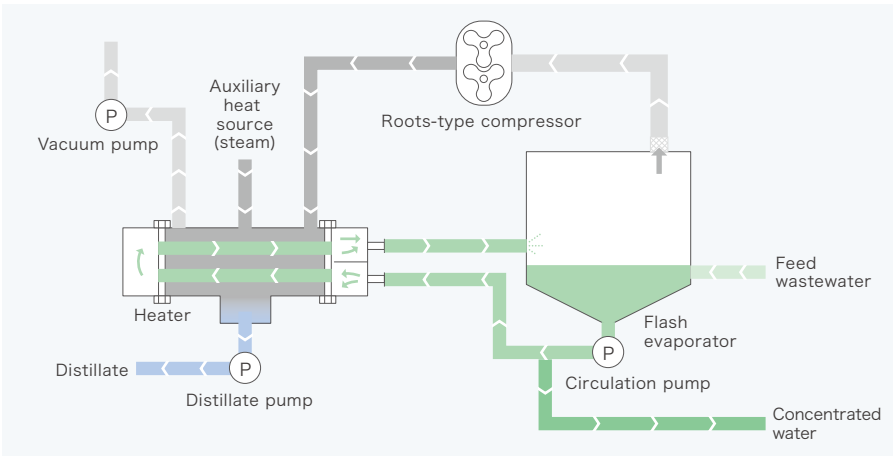


RVCC-15

Capacity & Size

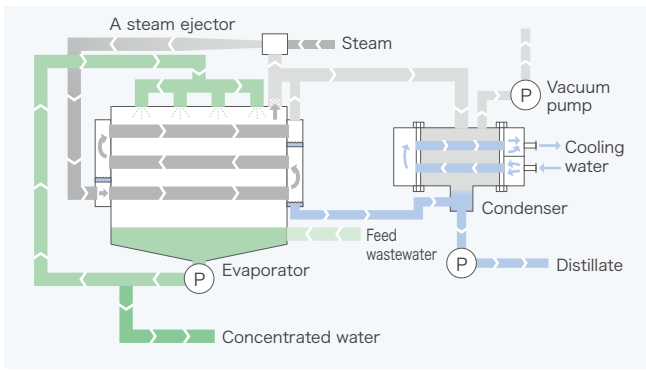
Evaporation amount (t/d)	2T/D	5T/D	10T/D	15T/D	20T/D
Steam consumption (kg/hr)	10	20	30	40	50
Consumption/Rated power (kW)	15/20	25/30	40/45	55/60	70/75
W×L×H (m)	2.0*4.0*4.0	3.0*4.0*4.0	3.5*4.0*4.5	3.5*5.0*5.0	3.5*6.0*5.0

* Please note that equipment size and power may vary depending on liquid conditions, etc.



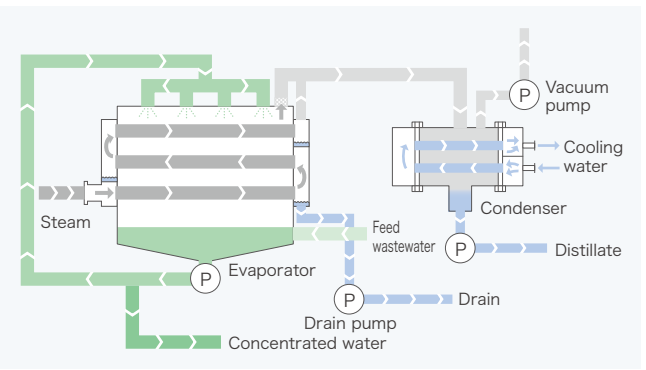
Model RHC

By using a steam ejector, it is possible to reuse approximately half of the waste heat.



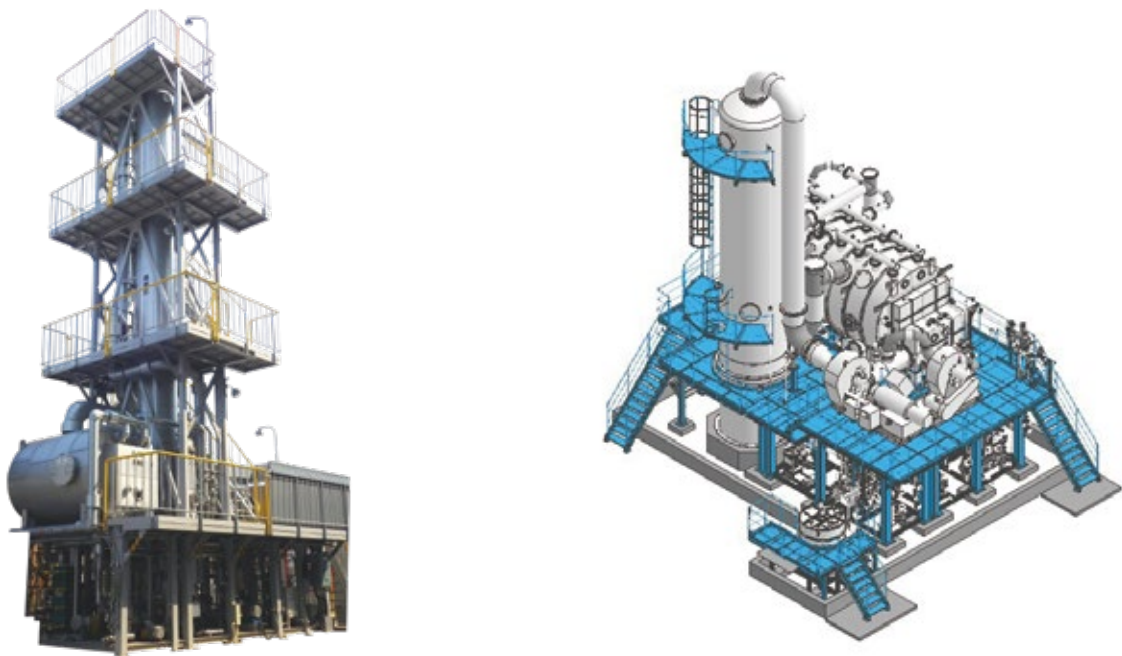
Model STC

It is possible to utilize low-pressure surplus steam(0.1 to 0.2MPaG).
It is also possible to reuse the steam drain after using the equipment.

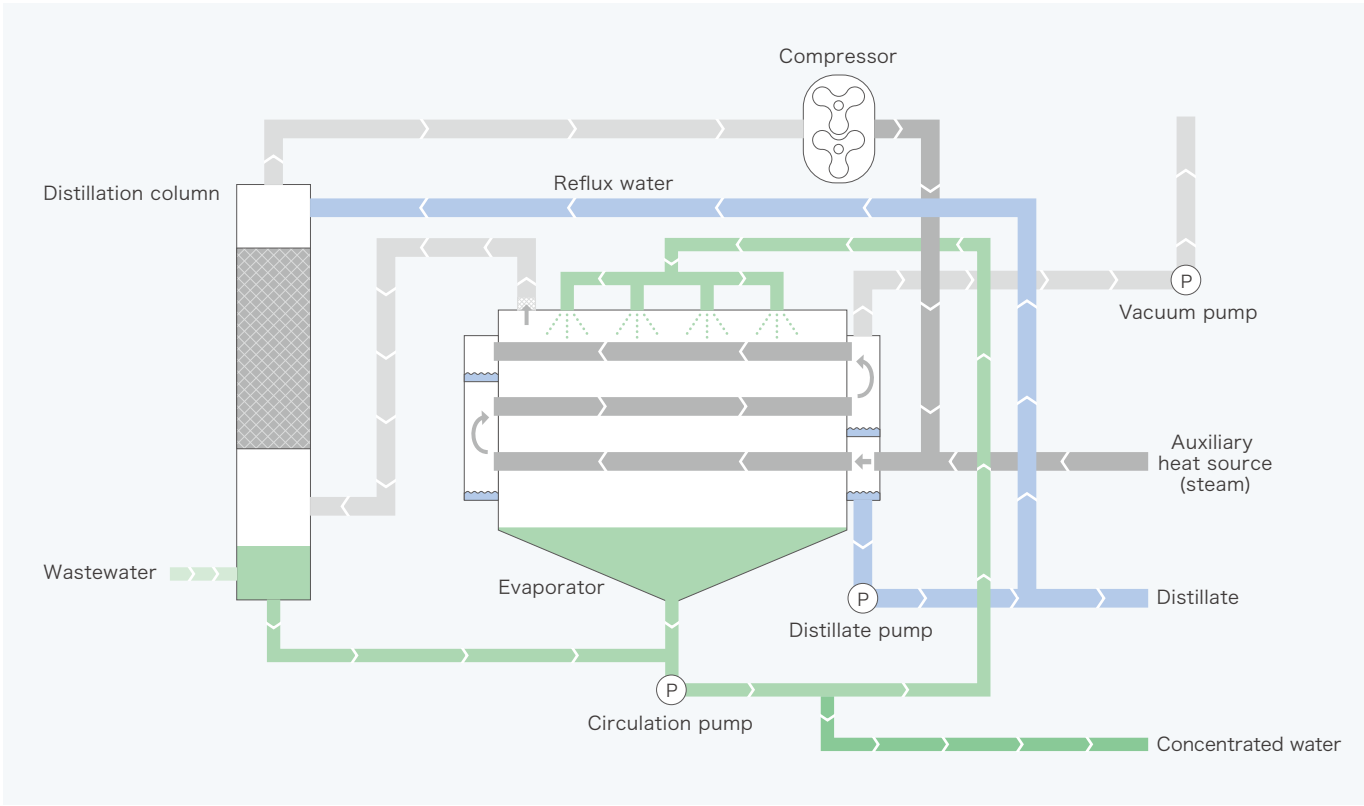


Solvent Recovery System

By combining a distillation column with an evaporating concentrator, high boiling point organic solvents and low boiling point substances can be recovered and reused at high concentrations. The adoption of MVR enables energy-saving solvent recovery, and the high degree of separation of recovered components significantly improves the water quality of distillate.

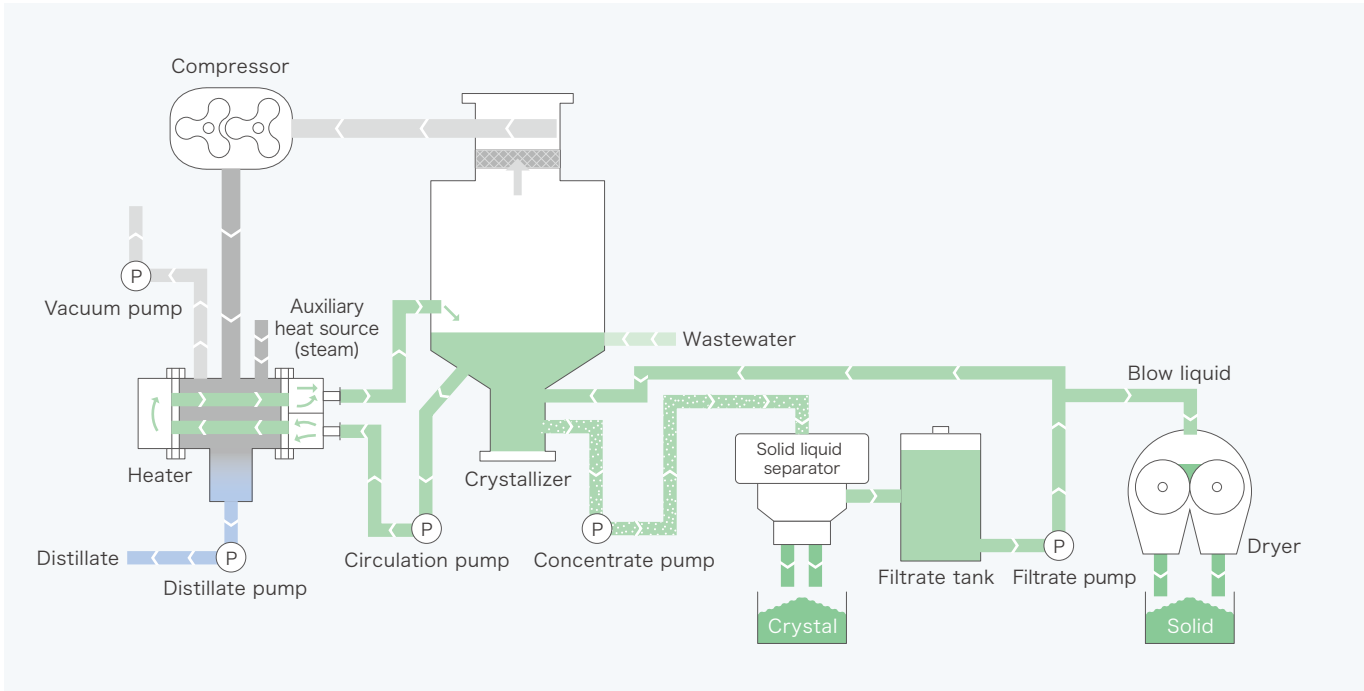


RVCC-26BSP 3D image



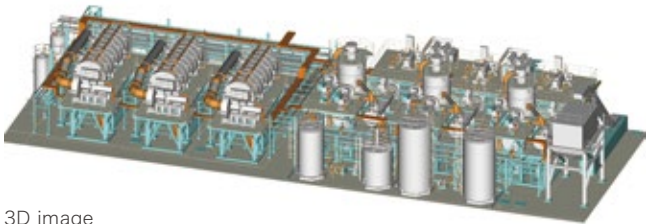
Crystallization System

This equipment uses a flash evaporator and is capable of concentrating in a slurry state that precipitated crystals. By combining it with MVR, we can realize energy savings and provide comprehensive proposals including the selection of scale prevention seed crystals, separators, and dryers.



Zero Liquid Discharge

Sasakura's evaporating concentrator can be used to eliminate wastewater in factories, which has been in increasing demand in recent years, especially overseas. We will propose a process from concentration to dry up.

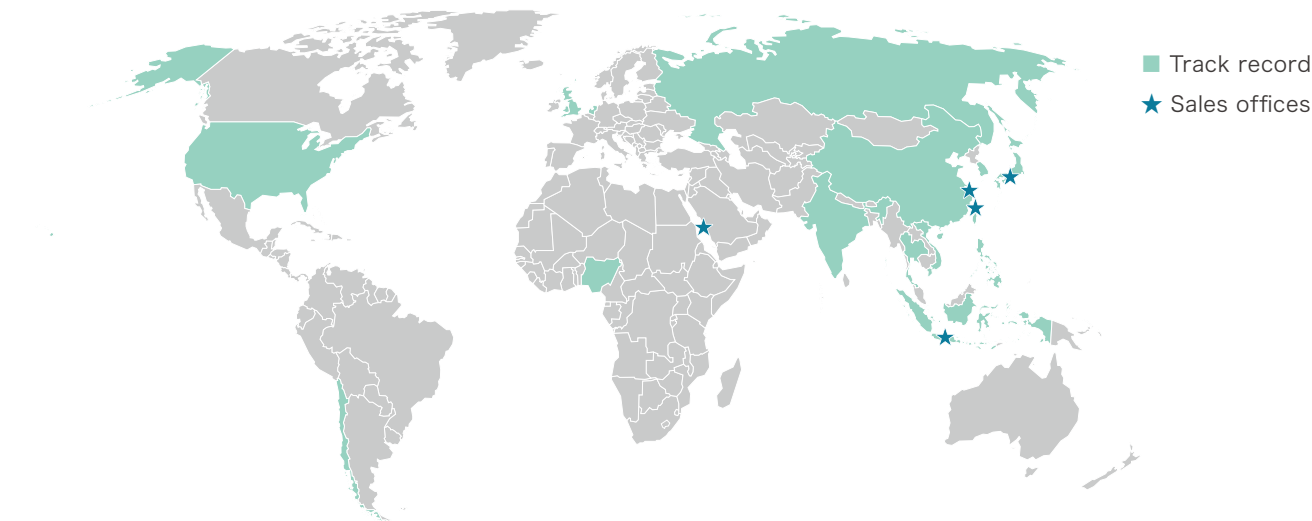


3D image



For wastewater treatment of industrial park in Taiwan

Sales offices & Track record



Sasakura has overseas sales offices and a large number of overseas deliveries.

Sales offices

- Indonesia
PT. Sasakura Indonesia
Jl. Wanamarta Raya No. 1B, Kawasan Industri Kendal Jawa Tengah 51371, Indonesia
Tel +62-24-330-00019 Fax +62-24-330-00017
- Saudi Arabia
Sasakura Middle East Company
P.O. Box 1745, Jeddah 21441, Kingdom of Saudi Arabia
Tel +966-12-6617484 Fax +966-12-6617479
- Taiwan
Sasakura Taiwan Co., Ltd.
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Tel +886-2-2322-3370 Fax +886-2-2322-3370
- China
Sasakura Shanghai Co.,Ltd.
#1611-1612, No.317 Xianxia Lu, Changning Qu, Shanghai, 200051, China
Tel +86-21-3223-1217 Fax +86-21-3223-1218

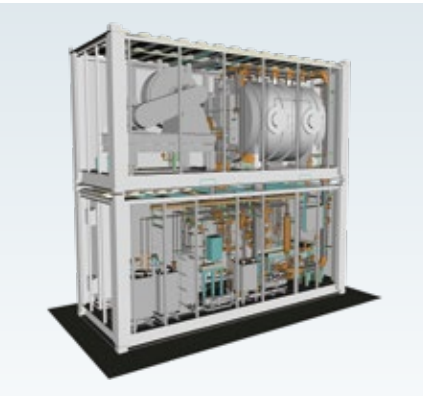
SASAKURA Mobile Evaporating Concentrator

Mobile Evaporating Concentrator

This is a container-sized equipment that can be used when and where it is needed, such as when the concentrator is not needed all the time or when the equipment's installation location needs to be moved regularly.

An energy-saving MVR type concentrator is built into the container and can be transported on a container trailer.

It is easy to operate as it can be divided and assembled in a few hours.



3D image



Transportation



Operation

Laboratory test / Pilot concentrator

By conducting laboratory test before design proposal, we are able to make proposal tailored to the processing liquid.
If requested by the customer, actual operation using a pilot concentrator is also possible.

Estimated volume of sample required

0.5L× Concentration ratio

*1 We will discuss the concentration ratio as necessary.

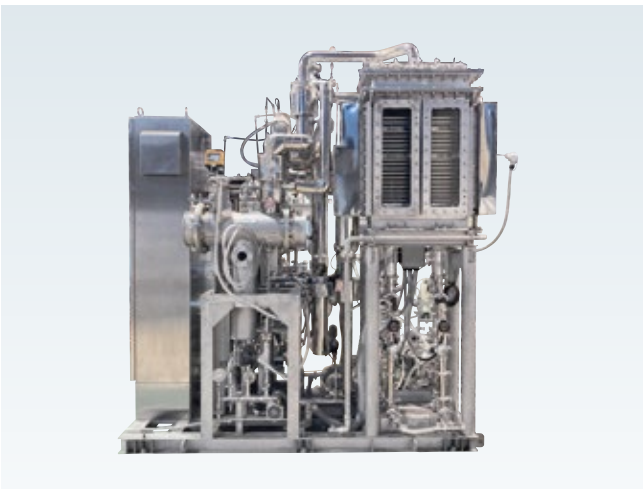
*2 This is the volume required when analyzing our standard measurement items.

Our standard analysis items

	Boiling point	Total solid (TS)	pH	Specific gravity / Viscosity	Conductivity
Wastewater	○	○	○	○	○
Concentrated water	○	○	○	○	○
Distillate	—	—	○	—	○



Lab test machine



Pilot concentrator

Evaluation by Japanese government

Fiscal Year 2019

Energy Conservation Grand Prize (support:Ministry of Economy, Trade and Industry) Energy Commissioner's Award
Award-winning equipment "Model VVCC"

Fiscal Year 2023

Ministry of the Environment LD-Tech certified product
*4 consecutive years from 2020 (2020 is L2-Tech)

Authentication equipment "Model VVCC"

