HISAKA

Continuous Liquid Pasteurization Equipment

Model : RMS

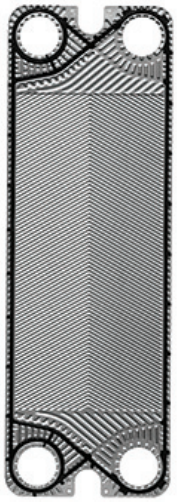
- Plate Type
- Tubular Type
- Spin-Injection Type

HISAKA WORKS, LTD.

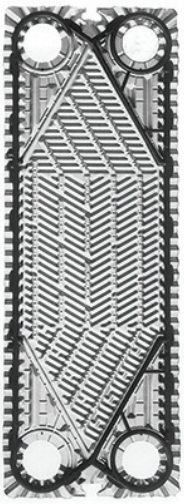
Plate Heat Exchanger

- Developed by Hisaka in 1953 in Japan. Plate Heat Exchanger (PHE) technology that was introduced and applied in the world wide.
- High performance with compact design.
- Meeting the highest food safety with excellent Productivity.
- Customized module to meet users' requirements.

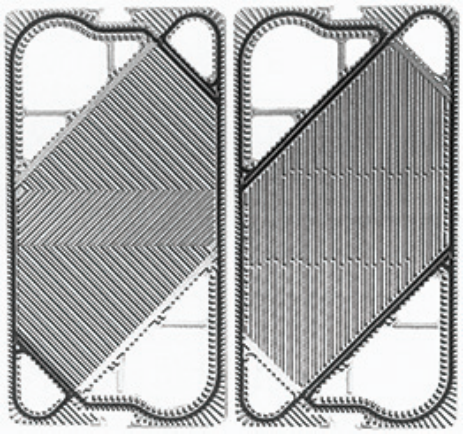
Special Food Plate
(FX series)



High Performance Plate
(UX series, RX series)



Multi Gap Plate
(GX series)

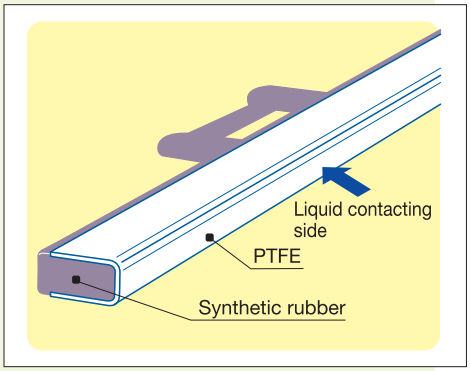


Special Condenser Plate
(YX series)

PTFE Cushion Gasket (TCG)

- In 1976, HISAKA developed the first PTFE Cushion Gasket in the world specially made for the PHE, creating higher productivity. Followed by world wide application in the food industries, it was also introduced to pharmaceutical industries and others.

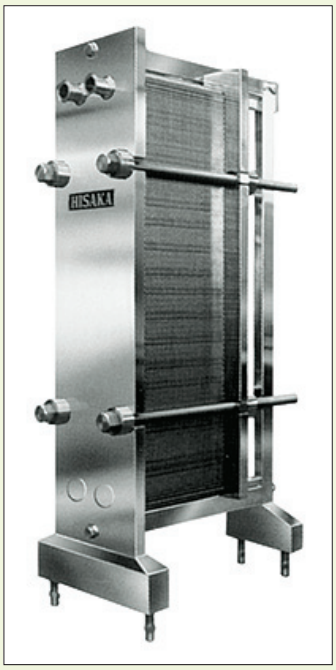
1. Free from odor whenever a product is changed.
2. Sanitary design
3. The Gasket is Free from contamination
4. Excellent chemical resistance against most chemical solvent and oils in food.



Construction of PTFE Cushion Gasket

FX Series: A Highly Dedicated Plate Technology in Food Processing

Application : Food Processing

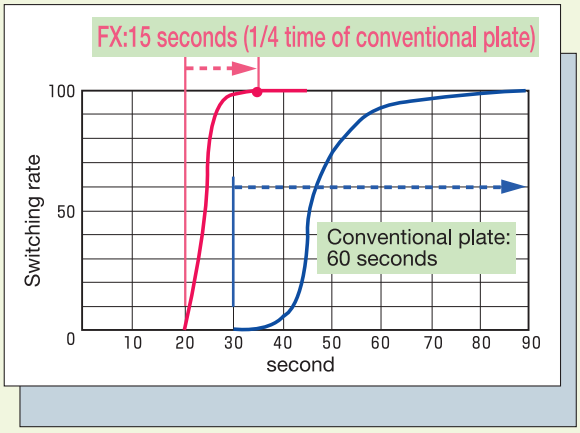


Feature:

1. Switching a fluid in a short time by simple flow channel.
2. Expanding time for continuous run.
3. Effective CIP with gentle & uniform fluid handling.

Switching rate test in process plate channel

Length of complete swithing of fluid in the process plate channel



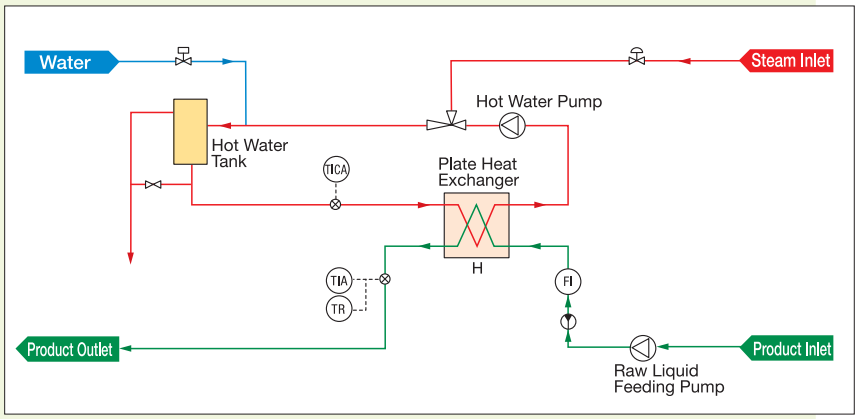
Specification of FX series

Model	FX-01	FX-10	FX-03	FX-30	FX-05
Heat-transfer area	0.03m²	0.11m²	0.2m²	0.22m²	0.44m²
Capacity	50～1,000L/H	400～5,000L/H	800～25,000L/H	800～25,000L/H	5,000～60,000L/H
Diameter of Nozzle	15A	1.5S	2S	2S	3S
Size of Frame	W160×H585mm	W290×H1,220mm	W540×H1,735mm	W540×H1,735mm	W840×H2,500mm

Plate Type Continuous Liquid Sterilizer

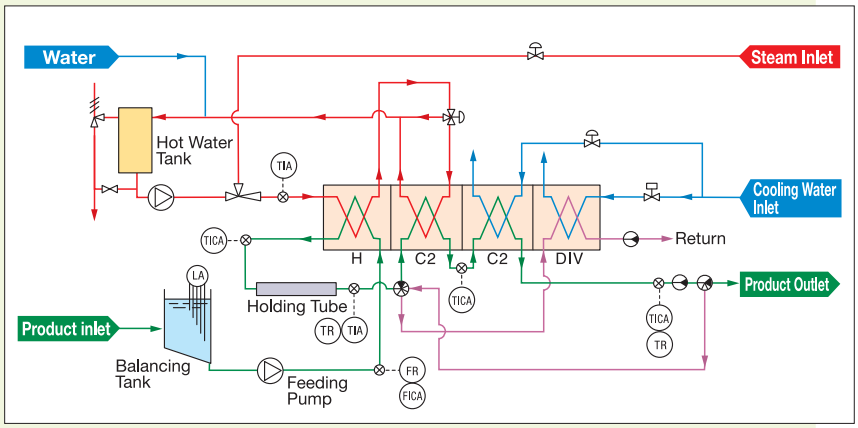
Hot Water Heating System

● Applicable to low-temperature pasteurization (<100°C)



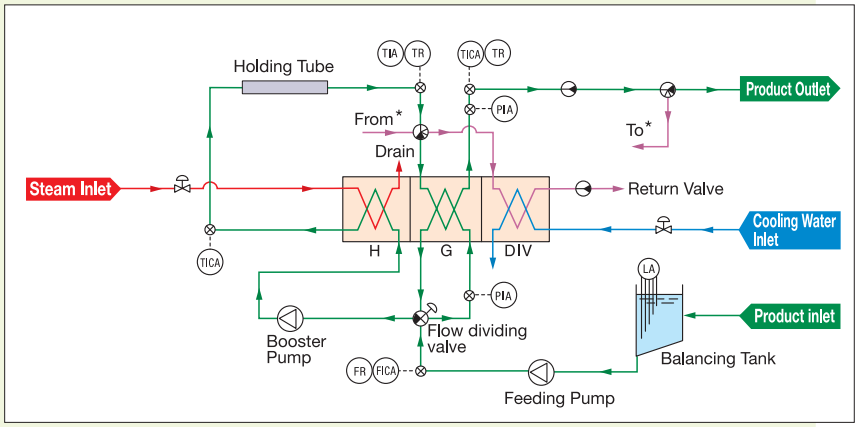
Circulating Hot Water Heating with Heat Recovery System

● To achieve differential pressure control easily.



Hot Water Heating with Heat Recovery System

● Ultimate heat recovery system with minimized cooling water consumption



Heat recovery and differential pressure control can be equipped as option

Tubular Continuous Liquid Sterilizer

■ Applicable for liquid containing solids such as various beverages, dressing materials and high viscosity fluid which cannot be treated by Plate Heat Exchanger.

Feature

- Liquid containing solids can be sterilized.
- It also can be reliably cleaned by CIP.
- Free from odor due to minimize a gasket.
- Easy maintenance. The gasket can be replaced easily.

Single Tubular Type

- Apply to small capacity.
- Switching of products can be achieved in a short time.

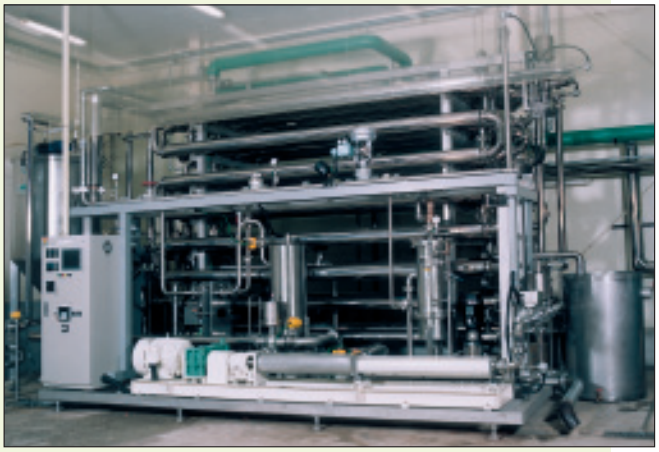
Multi Tubular Type

- Apply to large capacity.
- Space saving can be achieved.

<Comparison between Plate and Tubular Sterilizer>

		Plate Type	Tubular Type
Heat-transfer performance		1	3
Holding Capacity		1	3
Required Installation Space		1	3
Liquid Containing Solids		5	2
Initial Cost		1	3
Running Cost	Heat recovery	1	3
	Replacing Gasket	3	1

1 = excellent, 2 = good, 3 = acceptable,
4 = possible, 5 = not recommended



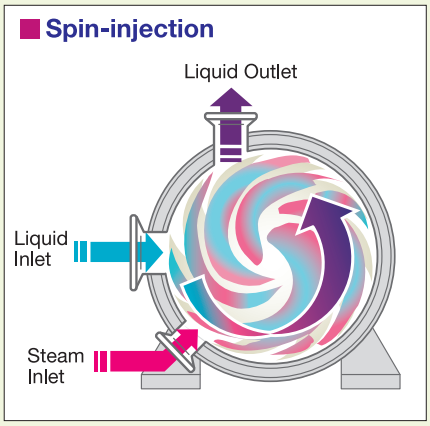
Tubular Continuous Liquid Sterilizer

Spin-injection Continuous Liquid sterilizer

- Spin-injection is developed uniquely by HISAKA as an injector powered by spin motion.
- The high speed spin motion provides a complete mixing of steam and fluid.
- Spin-Injection is the new solution for conventional problems faced by Injections and Infusions system.

Features

Spin-injection



1. Instant uniform heat sterilization

- Able to complete heat sterilization uniformly.
- With the technology of Spin-injection by injector powered by spin motion, process fluid and steam can be instantaneously mixed.

2. Capable of operation under low-pressure steam

- Operating under low-pressure/temperature steam is achievable by self-boosting function.
- Premium Quality heat sterilization can be achieved to reduce product damage possibly caused by the fluctuation in steam temperature.

3. Flexibility for various operations

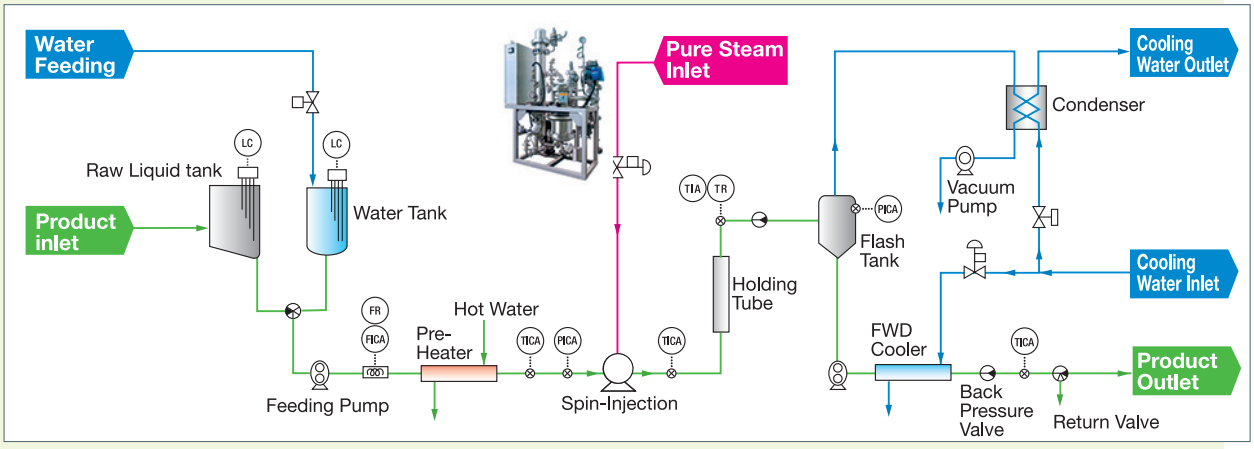
- Internal pressure can be controlled through the variable spin motion which is boned by inverter control.
- Suitable operation condition.
- Automatic Inverter control systems which provide suitable spin power as well as heat sterilization temperature to meet various kind of product's heat sterilization condition.

4. Simple structural having excellent in washability and maintainability

- Since the structure is simple, parts of contact with product liquid and steam can be cleaned completely by CIP usually.
- Devices can be disassembled easily within a short time.
- Internal parts can be confirmed by visual.

Applications

1. Injected Steam Direct Heat Sterilization: desserts, soybean milks, green juices, creams, collagens, gelatin, fruit juices, tea drinks, etc.
2. Injected Steam Direct Heating (cocker): mixing and cooking for extracting soaked soy bean before becoming tofu, etc.
3. Others: mixing liquid and flavor improvement, etc.



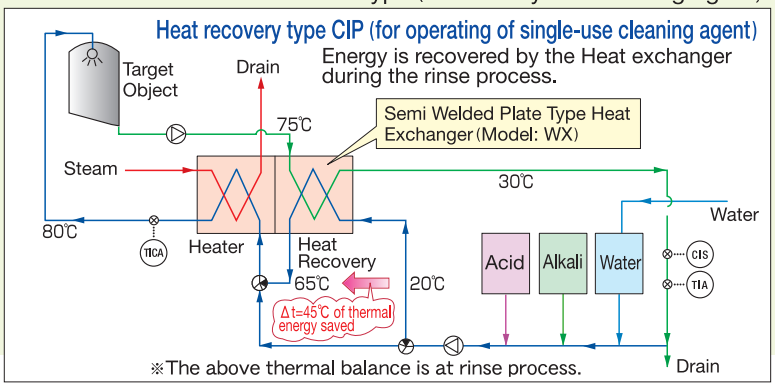
Optional Systems and Ancillary Facilities

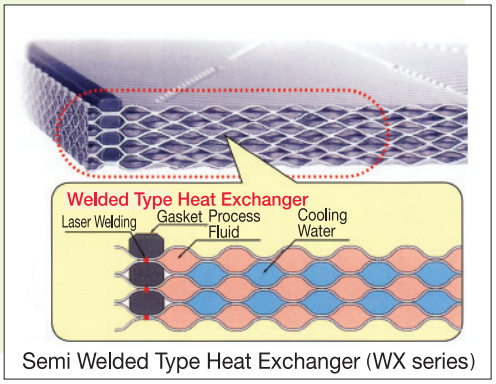
Aseptic Tanks and Valves

Engineering Design in Plant

CIP Equipment

- To clean entire connected production pipe lines, which include tanks and packing machines with CIP features connected to and from pasteurizer.
- Depending on process style, the equipment can be provided.
- Single-use type (which disposes of cleaning agent every time)
- Multi-use type (which recycles cleaning agent, can be chosen)





Semi Welded Type Heat Exchanger (WX series)

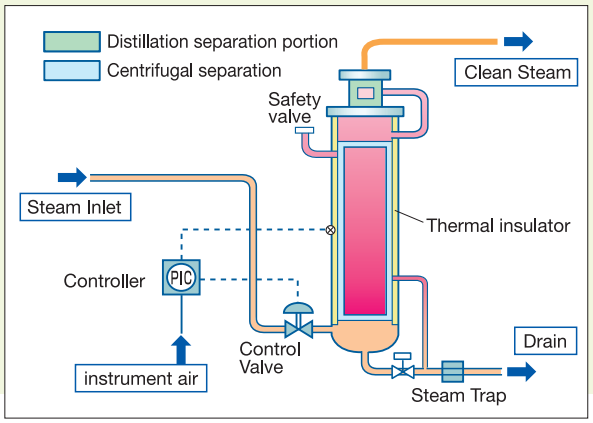
Pure Steam Generator

- Hisaka's Generator constantly generates saturated steam which is more purified and saturated than steam by sintered filter.
- Depending on the required steam quality and its application, direct evaporating type and indirect evaporating type can be chosen.

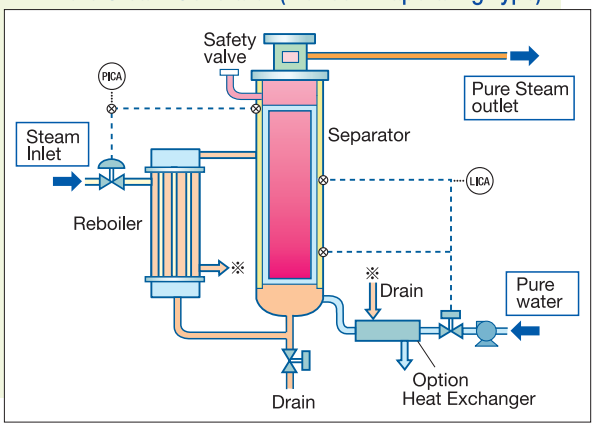
<Application>

- Process suitable for Direct steam (Spin-Injection, Injection Sterilizers)
- SIP for Cup, Tanks and Piping,
- Steam Cooking, etc.

Clean Steam Generator (Direct Evaporating Type)



Pure Steam Generator (Indirect Evaporating Type)



Laboratory Equipment and Testing Services

- HISAKA's laboratory is equipped with latest state of the art technology to meet today's food or any others industries process requirements.
- Testing, Process development and validation can be conducted in Hisaka Laboratory to meet the requirements.
- HISAKA's Laboratory is the window for tomorrow's technology, where various testing machines can be easily scaled-up to meet actual production process requirements.

◆Tubular UHT Sterilizer

- Capacity: 30 to 60 Liters / Hour
- CIP: 500liters / Hour
- Eliminate the Odour treated on Gasket
- Save fluid loss
- Temperature heating range: 95˚C to 140˚C
- Cooling Temperature range: 85˚C to 30˚C
- The lowest amount charged: 3 liters

◆Plate Type UHT Sterilizer

- to evaluate the Scalability
- easy to scale-up to the production machine
- Capacity: 30 to 60 liters/hour, CIP: 500liters/hour
- Temperature heating 95˚C to 140˚C, Cooling 85˚C to 30˚C
- The lowest amount charged: 3 liters

◆Spin-Injection with injection UHT sterilizer

- Capacity: 30 to 60 liters/hour, CIP: 500liters/hour
- Temperature heating 95˚C to 155˚C, Cooling 85˚C to 60˚C
- The lowest amount charged: 2 liters

◆Eco-Mini Testing Sterilizer

- Model: STS-100
- Capacity: 5 liters/hour
- Temperature heating range: 95˚C to 140˚C
- Cooling 30˚C

◆OPTION

- Two step heating, Two step cooling,
- Pure Steam Generator,
- Homogenizer,
- Clean Bench

HISAKA WORKS, LTD.

PROCESS ENGINEERING DIV.

http://www.hisaka.co.jp/english/food/ (Food)
http://www.hisaka.co.jp/english/pharmacy/ (Pharmacy)

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