

PRESSURIZED IH RICE COOKING FACILITY SILK

PRESSURE  $\times$  IH

Environmentally friendly  
next-generation rice-cooking facility



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**SILK**

Make every grain, every bowl, delicious

# CONCEPT

## Make every grain, every bowl, delicious

We have honed our rice processing technology for many years, more than 120 years since our founding, with the belief that we want to create a good healthy people through food.

In the industry's first "Pressurized IH Rice Cooking facility SILK" proposed by SATAKE, which has been thoroughly acquainted with rice, improved deliciousness, stable quality and space saving. We aimed to design our products in consideration of people and the environment that work in the rice-cooking facility.



**S**  
SATAKE

**I**  
Induction Heating (IH)

**L**  
Low Emission

**K**  
Kitchen System

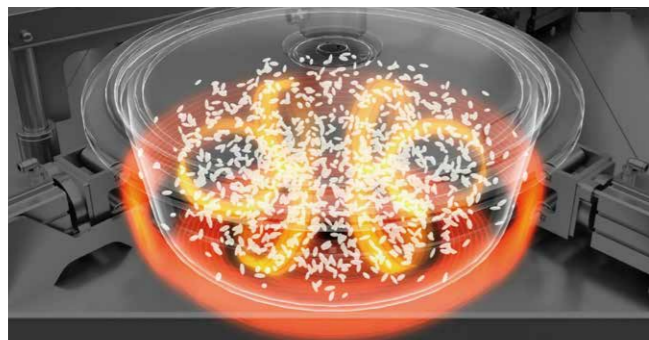
### Origin of the "SILK" brand name

Expressed by connecting four acronyms. In addition, It is superimposed on the image of silk such as "high-grade," "high quality," and "elegant," "gentle," "smooth," and "shiny". Brand logo's tagline "Every grain, every bowl, is delicious" is in order to achieve the distinctive features of a pressure-type IH rice cooker "firm graininess" "low unevenness," and "maintaining good taste" by cooking each grain carefully and thoroughly, we express our desire to make a potful of rice and a bowlful of rice delicious.

### Improvement of taste and quality stability

The industry's first "pressurized IH rice cooking facility SILK" heats rice at 1.2 atm × 106°C at once.

By heating the bottom and sides of the cooker itself, the whole cooker is heated evenly at once to cook rice. In addition, by applying pressure inside the cooker, heat is transmitted to the rice core, bringing out even more delicious flavor.



- POINT 01** Heat to core at high temperature

Pressurize inside the cooker to 1.2 atm and cook rice at 106°C. Heat is transmitted to the rice core, cooking it to a firm, grainy, fluffy and shiny rice.
- POINT 02** Gelatinize the rice in the cooker evenly.

Effective heating control from both sides of the bottom and sides of the cooker promotes convection in the cooker. This ensures even cooking and reduces unevenness in the cooking process.
- POINT 03** Long-lasting deliciousness

High-pressure, high-temperature rice cooking allows the rice inside the cooker to gelatinize evenly, resulting in little deterioration in taste and maintaining good taster over time.

- POINT 04** Structure that does keeps steam from escaping

The dry environment is maintained by preventing steam generated during rice cooking from escaping due to central exhaust.



- POINT 05** Collection and management of "temperature," "time," and "weight" data for all processes

Our unique manufacturing control system enables us to collect various types of data from all processes in the production line and manage them as Excel data. This makes stable operation and quality control easy.

Main data collection		
Weight control *1	Time management *2	Temperature control *3
Rice weight	Soaking time	Washing water temp.
Added water weight	Rice transfer time	Soaking water temp.
Seasoning weight	Seasoning time	Cooking water temp.
Cooked rice weight	Cooking time	etc.
Sprayed vinegar weight	Vinegar spraying time	

\*1 Data management for the amount automatically put into each cooker  
 \*2 Data management of the elapsed time for each container  
 \*3 Data management of the temperature in the cooker



Foreign materials such as bran balls and broken rice are removed by placing rice in a wide hopper that can be placed on the floor without the need for a pit, and passing it through a flow-through sorting machine. The standard capacity of the rice storage tank is 2 tons, and the number of tanks can be installed as needed. In addition, air conveyance ensures the rice is transferred to the rice milling machine without damaging the rice. No residual rice is retained, which reduces time loss during lot changeover and improves maintainability.

### 01 Rice delivery process



The rice washing machine can save a large amount of water compared to the conventional model by the unique technology of SATAKE. Rice is washed efficiently and quickly at a constant water temperature. The yield of the dehydrator is as high as 98.7% \*4, which prevents the occurrence of broken rice after soaking.

\*4 Based on our research

### 02 Rice washing process



Special containers are used for soaking. Compared to soaking in a cooker, the space is saved by approximately 40%\*5, making effective use of space. After soaking is completed, water is cut by reversing the packs and put into the rice cooker to supply cooking water.

\*5 Based on our own research, compared to our company's product

### 03 Soaking process



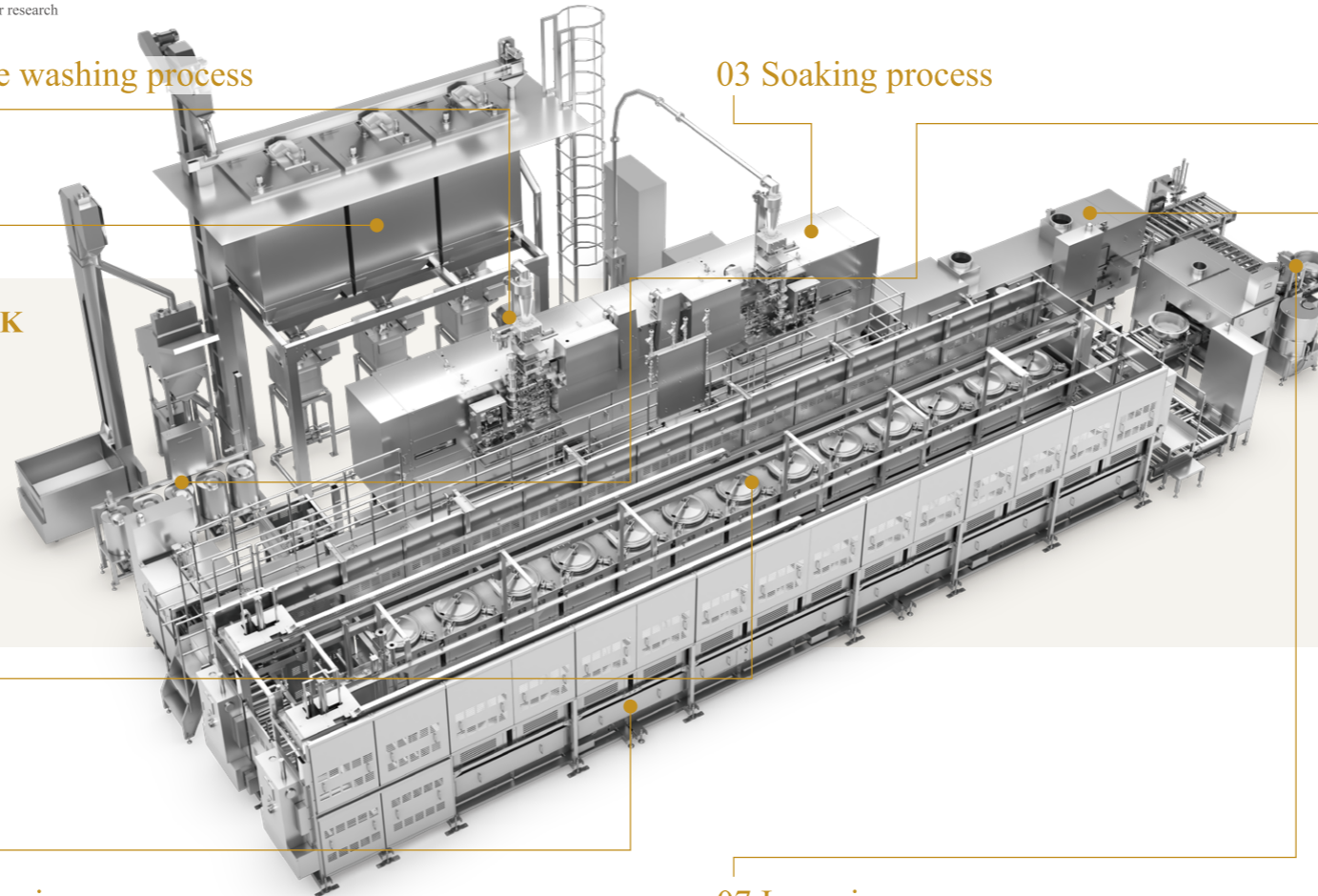
The "seasoning tank unit", which seasonings are added, is a weighing method that supports up to five types as standard. Seasoning is pumped to the seasoning supply unit and supplied to the cooker by "subtractive load cell weighing". Stir and knead the seasonings with two stirring paddles. The round cooker shape reduces uneven stirring.

### 04 Seasoning process

## Introduction of Rice Cooking facility SILK

### Rice cooking facility that produces "Firmness" and "Gloss"

In the industry's first "Pressurized IH Rice Cooking facility SILK" proposed by SATAKE, which has been thoroughly acquainted with rice, has know-how on rice from rice washing to cooker washing. We have built a line that maintains the original taste of rice with "Firmness" and "Gloss".



The "pressurization type" single cooker system can be cooked separately for each unit cooker, and can be used flexibly in small lots and in many types. Cooking at high-pressure and high-temperature of 1.2 atm and 106°C ensures even cooking of "fluffy rice" with gloss and firmness.

### 05 Rice-cooking process



Pressurization provides more intense heat, which prevents deterioration of eating quality and maintains good taste longer. Also, the lid and cooker are chucked in four places when cooking rice. The inside of the cooker is maintained at a high and even temperature to reduce variations in quality. In addition steam is exhausted centrally through piping. A dry and clean environment is always maintained.

### 06 Steaming process



When the rice is cooked up, rice is transferred to the lower level, and then for the 25 minutes steaming process. The inside of the steaming unit is automatically controlled to around 60 °C with electric warm air.

### 07 Inversion process



Loosen the cooked rice to remove excess water. The direction of rotation and conveyor speed of the smoothing blade are controlled automatically and can be changed. After inverting, weigh the tray and then pile it up.

### 08 Cleaning process

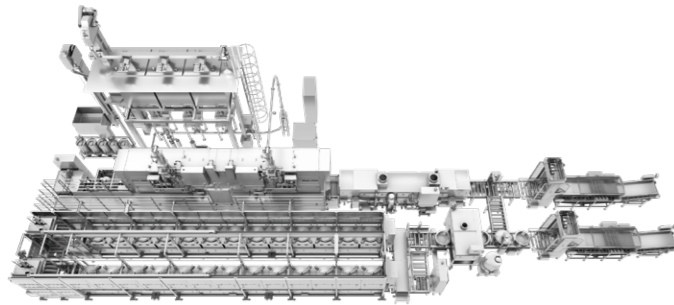


Clean the rice cooker and lid with return water\* after cooking. It can be cleaned with a high-pressure pump without residue. After that, the cleaning is completed after rinsing with fresh water and blowring.

\*Water used in the primary cleaning is reused in the secondary cleaning. Cleaning with fresh water for finishing reduces water drainage.

## Realization of space-saving

SATAKE's original manufacturing method (container soaking method) enables compact design and layout. Space savings of approximately 25% to 40% can be achieved.



### Unified design from washed rice to soaking

Usually, the rice washing machine and the soaking unit are separated from each other, requiring a lot of space, but SATAKE's SILK rice cooking line integrates them as a "rice washing and soaking unit", which saves space.

### Saving space by soaking with containers

Instead of soaking in a conventional rice cooker, soaking is done in SATAKE's unique containers, allowing for an efficient layout in a limited space. Initial costs can also be reduced by space saving.

## Rice cooking facility that is friendly to people and the environment

### People-friendly and comfortable work environment

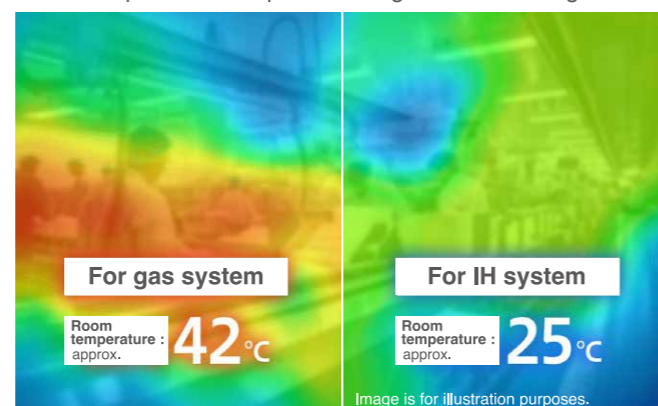
Compared to conventional gas rice-cooking facility, IH rice-cooking facility can significantly reduce the amount of waste heat during rice cooking and enable stable control of the room temperature in the facility. This provides a comfortable working environment for people working on site. Prevention of burning and spillage during rice cooking reduces cleaning burdens and improves maintenance, and from an environmental standpoint, reduces waste loss.

### Environmentally friendly facility design

Compared to gas rice cooking facilities, the amount of exhaust heat can be reduced. In addition, the use of a water-saving rice washer based on SATAKE's proprietary technology significantly reduces water consumption and wastewater, resulting in an environmentally friendly facility design.



Room temperature comparison image of rice cooking line



Conventional gas rice-cooking facilities require the installation of an exhaust hood due to high room temperatures of approximately 40°C or higher, but SILK's rice cooking facilities maintain a room temperature of approximately 25°C and do not require the installation of an exhaust hood. In addition, the required ventilation frequency is reduced to about half of the conventional systems, which also reduces the running cost of air conditioning system.

## LINE UP SILK Lineup/Product specifications

### Lineup of facility according to size

We propose a variety of line configurations to match the amount of rice cooked by the customer. SATAKE offers a lineup of 60, 80, and 120 cookers. We can handle even smaller and larger facility sizes, so please contact us.

#### ● SILK line up

60 cookers / h facility

80 cookers / h facility

120 cookers / h facility

#### ● Machine specification

Item	Capacity	Note
Rice cooking amount per 1 cooker	3 kg~7 kg	Raw rice weight
Rated power consumption in 1 unit	14 kW	

We offer the best equipment for your rice cooking volume and plant size. For details, please contact us using web form.



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ISO 9001 Certification  
(Quality Management Systems)

ISO 14001 Certification  
(Environmental Management Systems)

SATAKE CORPORATION has obtained ISO9001 and ISO14001 certification. These international standards for management systems ensure Satake will continue to provide high quality products and services.