

# HI-COOK



 **Metatek Co., Ltd.**

**HI-COOK companies**

Asahi Soseitsu Co.,Ltd. , Japan  
Metatek Co.,Ltd. , Korea  
Asahi Metatek Food Machinery Co.,Ltd. , China  
Hicook(Thailand) Co.,Ltd. , Thailand

Contact [www.hicook.com](http://www.hicook.com) or [www.hicook.co.jp](http://www.hicook.co.jp) for further details.

## SteadyGen<sup>®</sup>

Versatile, uniformly coloring, energy saving  
The ultimate smoke house with reliable reproducibility



Reloaded with the patented SteadyGen<sup>®</sup> generators

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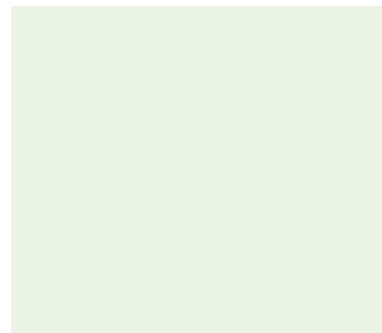
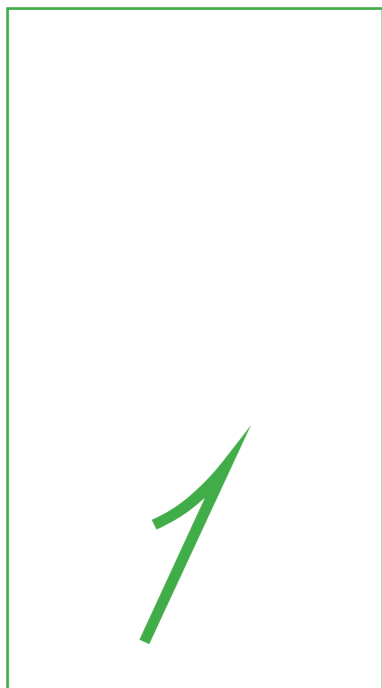
# Introduction

In many of Asian countries, people used to think meat processing had been originated in Europe. True, but there are more to take into account. A lot of European technology have been introduced into such countries as Japan, Korea after the second world war in a bid that each government made lots of efforts to provide meat protein to its people. European processing equipment were simultaneously supplied and there was no standard in verifying quality of the equipment, on whether they are suitable or not. Food is the most complicated cultural form for each nation and people. Although there are much similarity of material kind between two different hemispheres in the earth, the nature of meat processing in Asian countries differs from that of European. Process application is embodied by



its own cultural heritage and processing equipment should be designed in compliance with each particular application. Once cultures are different, we should deal with two different processing ways. It is a simple logic to say Asian meat processing distinguishes itself from European one and it would not be so wise to transplant European processing equipment without any verification.

HI-COOK has been designing, developing, and manufacturing hot-smoking & cooking systems for the last decades. As the leading equipment manufacturer in Japan and Korea, HI-COOK has had the goal of developing user-oriented and value-added systems for meat processing industries. The priority is given to our

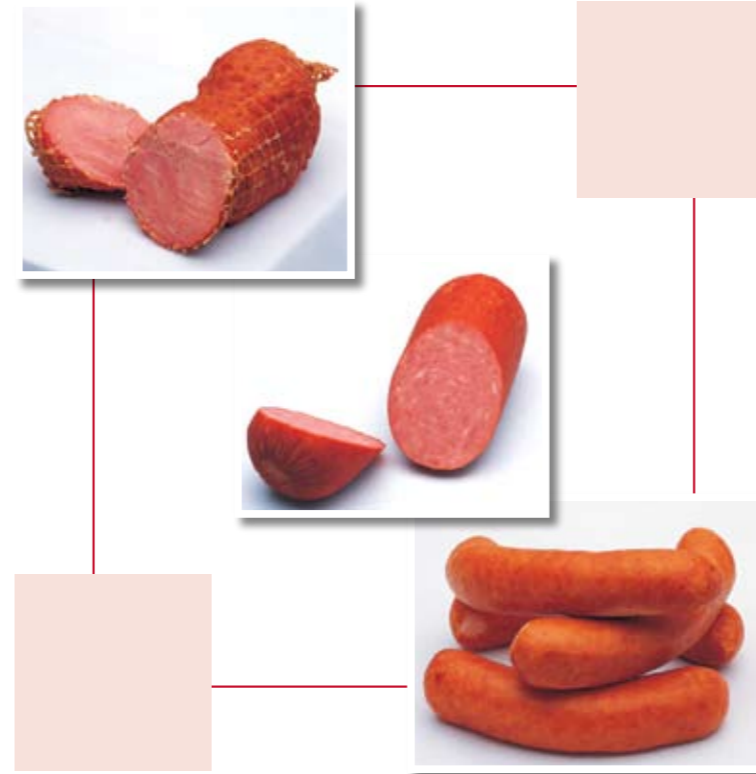


open-minded communication with our existing users. We hear, discuss, suggest, check, feed-back and advance to a next higher level. Users have always been our leaders in our continual research & development activities. We start and end with users, and it is on a permanent evolution. We strive for better quality and refined service. You should start from the ground you are located in. There is no logical reason that you should unconditionally adore for any superstitiously seemingly-nice equipment. Adopt pragmatism. Think twice where you are. Figure out which practically works for you in the closest distance without any time delay. Remember how upset you were when you needed to wait for some replacement parts just because there was no substituting ones in your local market.

Experience our proven hardware quality and user-oriented customer service.

# HI-COOK SteadyGen®

## Cooking & Smoking Installation

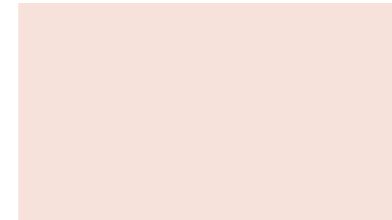


Some 20 years ago, HI-COOK smoke houses were partly benefiting in some aspects from European technology at its initial stage, but soon it started evolving on its own way by closely interacting with lots of the real local users. There have been several distinguishable steps of major improvement for the last decades, and now equipped with the patented smoke gas density sensor and SDAT system, it has proudly returned to the expanding global market, featuring much better drying quality, shorter smoking time, better production yield, less hygienic risk, and therefore better profitability.



## What makes differences

Not only in the industrial-class continuous oven and frying systems, but in the chamber type cooking and smoking systems, **HI-COOK** has been trendsetting in the relevant markets for the last decades. Its program ranges from a small batch cooker for butchery or lab use to a bigger scale cooker for large scale mass-production. The priority in **HI-COOK** smoke houses is the high production efficiency and the stable reproducibility of expected result. User's convenience has been maximized in terms

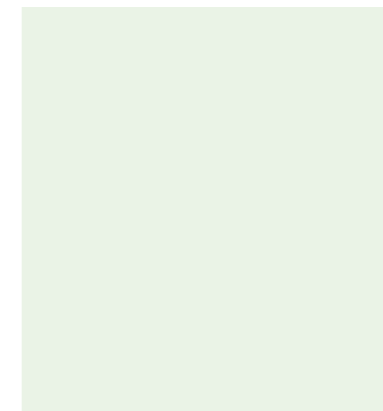


of centralization of major functional parts, etc.

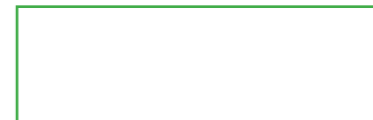
The wider application like hot smoking, reddening, cold smoking, intensive smoking, drying, steaming, high-temp. roasting, etc have been secured in **HI-COOK** installations. It offers you optimum process results in controllable production management with the enhanced safety of workers and foodstuffs.

## SteadyGen® woodchip generator In a closed system

In a close link with smoke density detector and its SDAT control system, SteadyGen® generator allows no incomplete combustion of woodchips, leading to stable and steady smoke generation. The woodchips are disintegrated just as much as necessary that results in less woodchip consumption and less emission issues. It has monitor-windows so that operators can check with their eyes what is going on and how well the woodchips are properly combust- ed inside of the generator. It can be used not only for the closed **HI-COOK**



smoke gas circulation system, but also for the normal exhaust system. The smoke generator can be placed next to or behind the smoke chambers. It can be mounted on the doors if the space issue is highlighted. The construction of this reliable generator is very robust and easy to handle with any beginning operators. The system is made from pure stainless steel. An automatic fire extinguisher is prepared in the smoke generator for the case of any unexpected fire. The generator is not activated when the automatic fire extinguisher senses no preparation of water supply.



- Maximized smoke density leading to the shortened smoking time.
- Full time inter-communicating between the generator and the main controller.
- Minimized woodchip consumption thanks to its closed circuit.
- Easy operation and maintenance.



### The installations basically feature;

- Fully automatic air or electrically driven valve and damper system
- Reliable temperature sensing and control system
- Precise temperature recording and monitoring system.
- Direct humidity sensing and continual feed-back system
- Smoke density detector and SDAT system
- Noise-free air circulation fans
- High-quality chrome-nickel stainless steel
- Fully welded and concrete infra-structure
- Various heat source such as high pressure steam, electricity, gas, etc on demand
- Choices on touch panel or TFT display as well as MIC microprocessors



## Self responding density controller



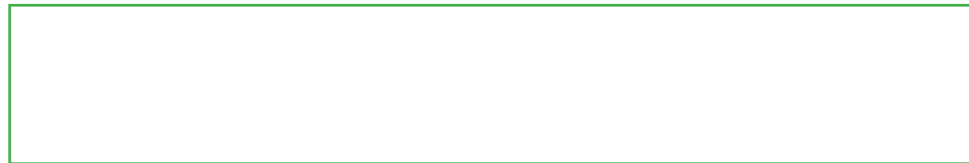
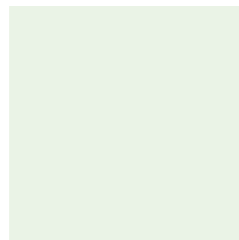
SteadyGen® is equipped with the world first self responding density controller, that senses the density of smoke gas, calculates the gap between the set value and the present one, gives the signals to the smoke generator to adjust, and therefore making the system reach the target range. Thanks to the patented smoke density detector, smoke gas density

is continually being detected to eliminate any possible fire or unexpected explosion while the installation performs the densest smoking process within elaborately-controlled safety. It gives the signals to the micro-processor of the installation which will then be able to generate and deliver high-quality (more C6H5OH) smoke gas.

# Steam smoke generator

In some cases, customers are addicted into vaporized steam smoking that disintegrate woodchips in a different way from smouldering generation. Super-heated steam disintegrates woodchips while passing through, and highly humidified smoke gas is obtained. This differently generated smoke gas creates a different coloring effect that is not shown in SteadyGen® generator. The color would be a little thicker than the bright color of SteadyGen®. Which generator type

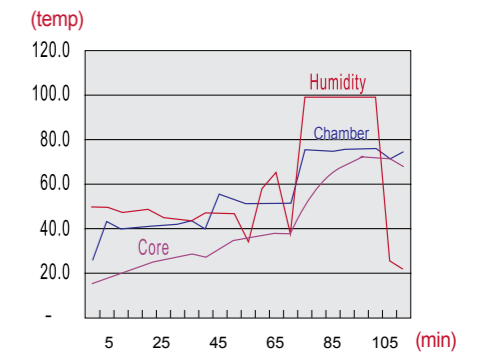
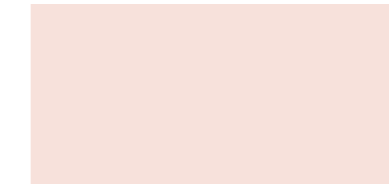
is suitable for you is needless to ask. If you prefer a thicker color, choose our steam smoke generator. If not, SteadyGen® waits for you.



# Perfect drying

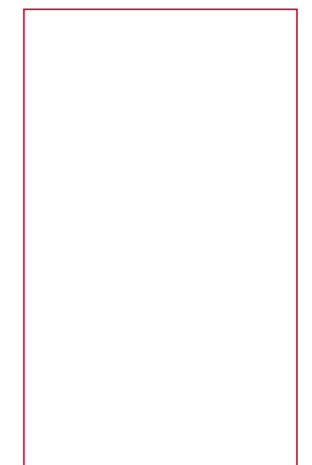
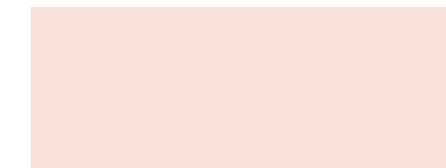
Drying is not a simple previous step to smoking process, but a decisively acting step to determine the quality of smoking color. When smoking process appears strange, it is generally recommendable to look for the first reason in its previous stage, drying process. As far as drying is incompletely done, optimum smoking result cannot be desired. HI-COOK smoke houses make use of its high speed air-circulation and its unique

air & heat distribution know-how to perform even and rapid drying process throughout the whole chamber, promising the optimum smoking quality and less drying time.



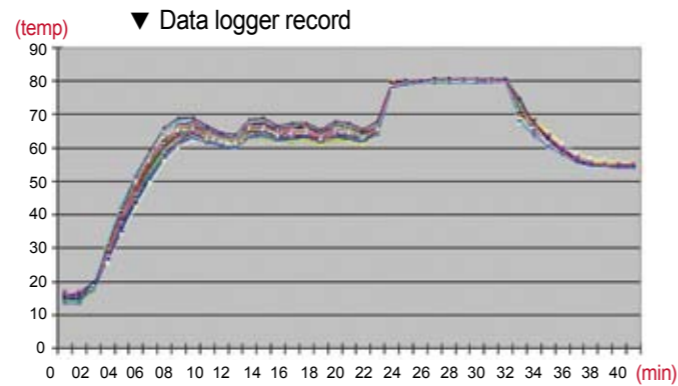
## SugarGen®

The patented TG generator is called SugarGen®, a sibling of SteadyGen®, a significant output of HI-COOK's most updated research and development. SugarGen® TG use neither woodchips, wood log, nor any liquid, but sugar (C12H22O11). Sugar has been a good material to generate smoke flavor gas without sourness for some thousand years, and HI-COOK has successfully made the sugar-generation theory in a form of machine, SugarGen®, for the first time in the world ever.



# Uniform coloring

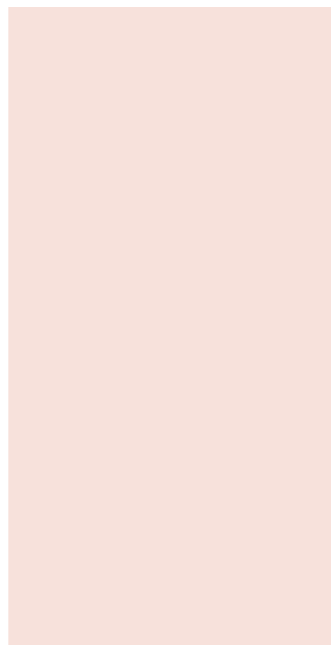
Smoking quality is decided already in its previous drying process. Mounted on the roof, the turbo fans circulate the air in a large volume intensively but at surprisingly low noise level (ultra-silent mode design). In a certain difficult process with relatively higher process temperature, the system can be equipped with air-flow adjusting devices for distributing fresh air to any location as users wish.



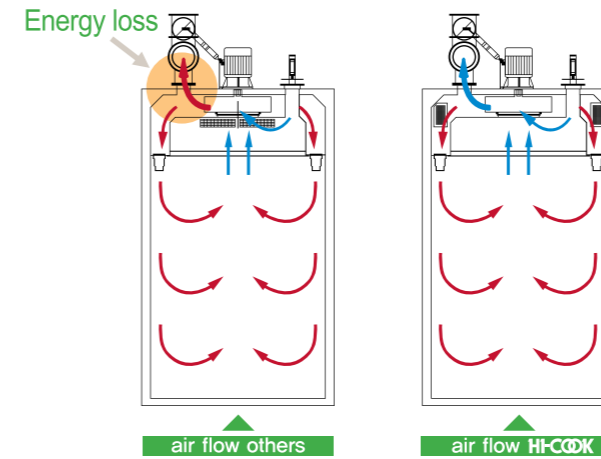
The intensive air velocity (13 meters/sec) makes it possible to dry products evenly and therefore smoke them uniformly. This makes the HI-COOK system look totally different from other ones, especially in the case of such so-called hard-to-handle products as collagen and sheep-casings. There is no difference in color and thickness to human eyes. The noiseless air circulation fans are so worker-friendly.



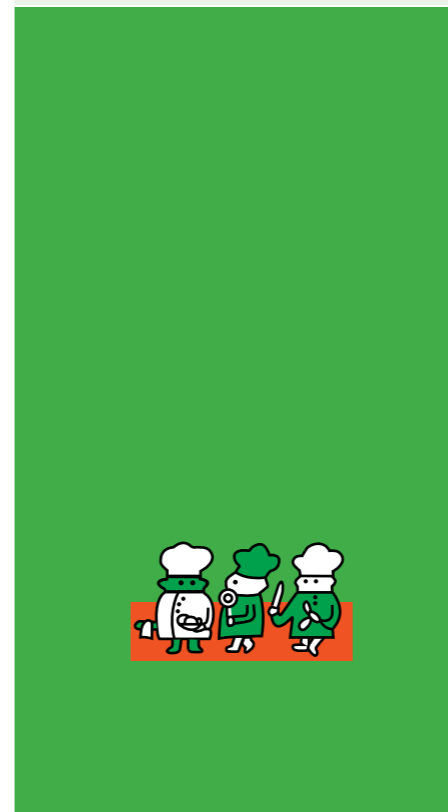
Example of intensive smoking (smoked chicken)



# Heat exchange efficiency



Heat exchanger is located in the mechanically-closest place to products. In other conventional smoke chambers, circulated air normally go through heat exchanger and then circulation fans where they lose lots of heat energy even before getting in contact with real products. In the HI-COOK installation, air travels through circulation fans first and then enter heat exchanger where air is reheated just before getting in contact with products. There is no chance to waste any heat energy unnecessarily.



A picture taken on a user's site

## Real time monitoring on your pc, perfect interface

The installation is equipped as a standard with microprocessor that offers 99 programs (store/recall), but also can be offered with PC-monitoring & management systems, TFT display, and/or fully touch-panel devices. Temperature recorder can be equipped independently of these controllers or inner-mounted in the touch panels. Daily production data will be stored and taken back whenever necessary by a simple computer operation.



TP 1000/TP 800



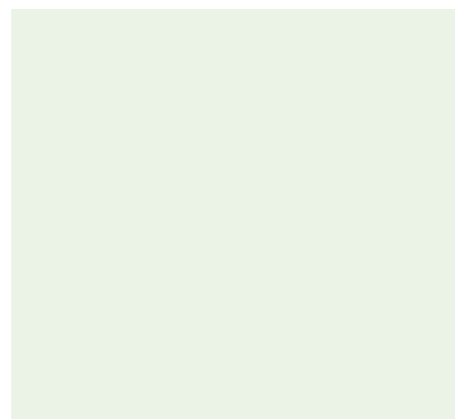
## Easy access to maintenance



All the essential components get together in the front top for easier access of maintenance people. Inside of the system, you can take all the plates apart to see what are behind them, such as heat exchangers and turbo fans, etc. Every corner is processed in such a way that any dirt can hardly cling to, so cleaning in those places is simple and easy.



Our controller uses the latest technology to monitor and interface with all HI-COOK SteadyGen® and all the related optional items. All the process datum such as temperature, time, humidity etc. can digitally be stored and traceable during or after the process. It can also perform F-value cooking, delta-T cooking, and many other modern scientific benefits.



## CIP

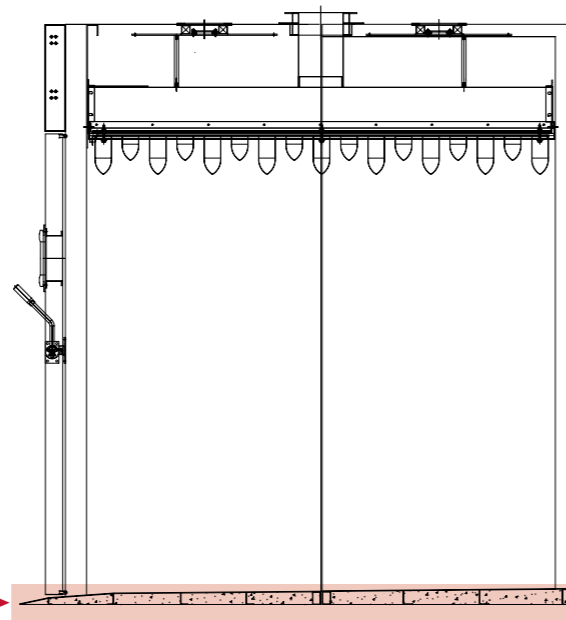
As food safety is emerging as the most critical issue in every part of the world, HI-COOK has taken the effective CIP system as a standard option in all smoke houses. No additional pump is required. Just connect water pipe with the inlet of the CIP system. Not only the chamber, but all the piping, connections, generators are benefited by the CIP.



## Heavy duty concrete base

Welded in multi-crosswise form, the system base is filled with concrete, supporting the entire system stably in the optimum balance, producing no deforming even in long years of use.

The frame wall is more than 84 mm thick, ensuring its robust & sound durability together with its concrete base infrastructure.



Concrete + Stainless steel bone

## Compact smoke oven smoki-2000



The compact smoke house with built-in SteadyGen® smoke generator. Fully microprocessor control & automatic damper regulator. Smoki-2000N compact offers faster coming-up time, fully programmable operation, effective energy saving, less weight loss, and comfortable maintenance works. Most of the technical benefits of the HI-COOK industrial class smoke houses are inherited to this mini system with some extra functions. Super electric heaters are adopted so that the chamber temperature can reach up to abt.200 deg.C. Steam cooking is available.

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## High temp. roasting

For the temperature 200 degree C, we offer you HI-COOK BC roasting oven featured by high performance heating utility and automatic air circulation system. Using indirect heat exchanger, it allows no pinking effect. Heat sources can be chosen between electrical heater, high pressure steam and gas burner. The automatic air circulation system changes air flows to equalize heat distribution inside the chamber, and allows the minimum heat difference between the upper and the lower part. Such hard-to-process products like Peking-duck are proved to be processed very well in our BC oven installation. The BC oven can be combined with our SteadyGen® woodchip generator, so it can be used for smoking process as well.



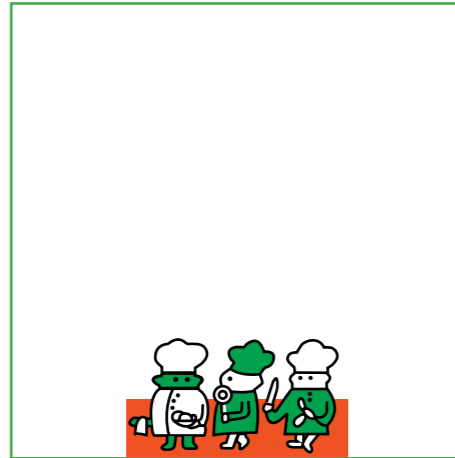
## Cold smoking

There are increasing market demands for smoked fish products such as salmon while consumers interests on health issue are surging up. Technically tied up with some European experts for the effective process control, HI-COOK offers reliable cold smoking systems with production know-how. Cold smoking requires more discreetness for production facilities because fish should be treated gently and also because cold-smoked fishes normally represent value-added expensive goods. HI-COOK team can guide you how you should treat fishes.



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## Cared locally or remotely?

In many cases, our smoke houses are installed in many foreign countries. Since the systems, once installed, are supposed to work for a couple of decades, regular-base maintenance is of the essence to keep the system working in a good condition. Unlike many European manufacturers who purposely design some essential parts in their own specification, we have been trying to use parts and devices which can be easily procured from local markets of any users. The benefits are outstanding. Users can get any necessary parts timely with affordable costs. There is no need to waste several weeks just waiting for the replacement parts to fly from another part of the earth. Our installation is completely locally-cared, guaranteeing non-stop production and affordable procurement costs.



## Basic figures for installation



### Dimensions

Model	Trolley load	A(width)		B(Length)			C(Height)	
		Chamber only	Control box +	standard	Door gen.+	2 doors +	standard	Y duct+
S-800	-	830	-	960	Incl	-	1,800	-
S-2000	(1)*	1,162	263	1,150	Incl	-	2,175	-
S-3000	1	1,628	315	1,393	230	123	3,178	193
S-4000	2	1,628	315	2,430	230	123	3,227	268
S-6000	3	1,628	315	3,500	230	123	3,227	268
S-8000	4	1,628	315	4,570	230	123	3,227	268
S-8000Q	4	3,096	315	2,430	230	123	3,227	268
S-12000	6	1,628	315	5,640	230	123	3,227	268
S-12000Q	6	3,096	315	3,500	230	123	3,227	268

### Utilities

Model	Water	Steam		Air	Electric power (3ph,50/60hz) AC200/220/380
	1~3bar	5~7 bar	0.5 bar	5bar	
S-800		-	-	-	7kw
S-2000	Dn15	-	-	Dn15 (15A) 10L/min	18.5kw
S-3000	(15A)	50kg/hr	50kg/hr		3.5kw
S-4000		100kg/hr	100kg/hr		6.5kw
S-6000		150kg/hr	150kg/hr		9.5kw
S-8000	Dn25	200kg/hr	200kg/hr		12.5kw
S-8000Q	(25A)	200kg/hr	200kg/hr		12.5kw
S-12000		300kg/hr	300kg/hr		18.5kw
S-12000Q		300kg/hr	300kg/hr		18.5kw

All the figures herein are subject to change without notice.

### Trolley

	Width	Length	Height
Standard	1,050	1,000	1,980
*(for S2000)	810	700	1,370

Stick length 1,000 mm (800 mm for S2000)

### Smoke generators

Model	L x W x H (mm)	Electricity	
		Heater	others
Ni30	821 x 375 x 1,400	0.5kw	-
Ni60	905 x 625 x 1,400	1.0kw	-
SG16	1,060 x 1,500 x 1,900	9.0kw	1.5kw

5 bar air is necessary for all the generators(5L/min)  
SG generator requires 0.5 bar steam (35kg/hr)