HORIBA
Process & Environmental

High Accuracy Infrared Thermometer
for food Industries
((The user interview))

Sasaki Sake Brewery

"Producing high quality sake sustainably by controlling temperature"

Sasaki Sake Brewery
Traditional technique
of Rakucyuu*

HORIBA
Expressing TAKUMI*'s skill
in numerical form

* "Rakucyuu" refers to the old town area of Kyoto.

* "TAKUMI" refers to "a master craftsman".

"Maintaining temperature" is the key to sake brewing

Sasaki Sake brewery is the one and only brewery that exists in Rakucyuu, Kyoto.They use pure underground water that is said that Sen no Rikyu used to make tea in the tea ceremony, with during their process of making sake.

The key in their process of making sake is "accurate temperature control". Since microorganisms such as "koji mold" and "yeast" make sake ferment from rice, it is necessary to create a suitable environment for each microorganism to produce good sake. Therefore, the most important parameter is "temperature", says President Akira Sasaki.

In particular, accurate temperature control is required for the process of making "malted rice". In the room for making malted rice where it is strictly controlled so that no other microorganisms could contaminate the temperature changes constantly due to the heat generated by the growth of koji mold. Therefore, the chief brewer adjusts the progression of fermentation while measuring the temperature of the malted rice. In addition, even in the process of making unrefined sake where malted rice, steamed rice, yeast, and water are added into a tank for fermentation, the optimal temperature is maintained at each step so that the fermentation process goes properly.

President
Mr. Akira Sasaki

Measuring ideal temperature control profile with HORIBA's infrared thermometer
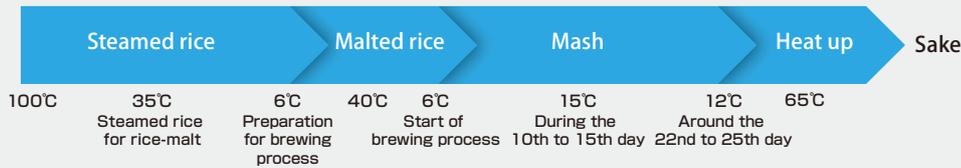
At the time when the temperature control depended on the sense of the chief brewer, every year there would always be a slight difference in the quality of sake due to yearly temperature fluctuation and a condition of rice harvest says president Sasaki. "However, based on accumulated data and external research data, the ideal temperature control profile is decided according to the quality of rice and type of yeast every year, which has made producing high quality sake sustainable.

Sasaki Sake Brewery uses an infrared thermometer for temperature measurement of each process. "I used to use a contact type thermometer but had to be extra careful when doing so because there was always the risk of contamination by bacteria from the tools. On the other hand, contactless type thermometers can be used without worrying about these concerns. Among several thermometers, HORIBA's infrared thermometer is very accurate and can be very reliable. Sasaki Sake Brewery has a high reputation and has received the gold prize 3 years consecutively which is awarded by the National Bureau's Research Institute of Brewing which all results from strict temperature controlling.

General process of temperature controlling in making sake

Sake is made when the chief brewer visits the brewer in winter. In addition, by lowering the fermentation temperature it slows down the fermentation so in winter the bacteria in the air does not become active which also has less effect of germs.

Steamed rice	Malted rice	Mash	Heat up	Sake

100℃	35℃	6℃	40℃	6℃	15℃	12℃	65℃
	Steamed rice for rice-malt	Preparation for brewing process		Start of brewing process	During the 10th to 15th day	Around the 22nd to 25th day	

[Sasaki Sake Brewery]

[Handheld Models] High-accuracy Infrared Thermometer IT-545 series

Infrared Thermometer
IT-545 series

[Measurement temp. range] -50 to 500℃ (-50 to 1000℃ for NH type)

[Measurement wavelength] 8 to 14 μm   [Display resolution] 0.1℃/1℃

[Measuring diameter] Ø40/500 mm (NH/N type), Ø2.5/30 mm (S type)

[Response time] Within 0.8 sec (95%)

[Dimensions] 40(W) x 170(L) x 36(H) mm

[Mass] Approx. 140 g (batteries included)

➲ HORIBA POINT

- Industry leading* high accuracy thermometer.
- High accuracy (+/-1℃), high repeatability (+/-0.3℃), and fast response.
- Easy-to-use, compact and light weight design.
- Wide measurement range.

※ Results of 2018 in-house study

IMS The HORIBA Group adopts IMS (Integrated Management System) which integrates Quality Management System ISO9001, Environmental Management System ISO14001, and Occupational Health and Safety Management System OHSAS18001.
We have now integrated Business Continuity Management System ISO22301 in order to provide our products and services in a stable manner, even in emergencies.

⚠ **Please read the operation manual before using this product to assure safe and proper handling of the product.**