

# Japanese Sake Alcohol Measurement Instrument

Alcolyzer Sake



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## Patented technology to selectively measure the alcohol content in Japanese sake:

The alcohol content in Japanese sake is measured by using the narrow band specific to alcohol in near infrared rays (NIR) spectrum. This measurement principle is using the significant alcohol peak in the alcohol spectrum and a baseline in close proximity. A wide range of studies revealed that there would be little influence from known sake components.

## Direct alcohol measurement

Alcolyzer directly determines the alcohol content in Japanese sake without requiring adjustment specific to products. Simple adjustment using the water and alcohol water solution covers almost every kind of Japanese sake and enables direct measurement of alcohol without distillation.

## Results equivalent to those of conventional measurement methods

The Alcolyzer method directly measures the alcohol content of Japanese sake. Alcolyzer is closely correlated with conventional methods and the precision of the values obtained by Alcolyzer has been acknowledged.

## Conformance to national standards

The Alcolyzer method for refined sake is different from the analysis method defined by the National Tax Agency, and its principle and precision have been acknowledged. Knowing alcohol contents is an important parameter for production monitoring, quality control and labeling. The Alcolyzer method for refined sake is different from the analysis method defined by the National Tax Agency, and its principle and precision have been acknowledged. Alcolyzer 3001 Sake using the Alcolyzer method is an optimal solution for alcohol analysis of refined sake.

## Sake meter value

By combining Alcolyzer 3001 Sake and a density meters DMA 4101/4501/5001, the alcohol content and sake meter value can be measured at the same time. Important parameters for production monitoring and quality control of Japanese sake can be readily obtained.

## Customization solution

The Alcolyzer analysis system can be customized in accordance with the customer's needs. A multiple specimen sampler and a filling unit can be combined with measurement options such as a pH meter, turbidity meter and alike.

## Convenient data processing

The results are stored in the instrument and the data can be exported via various interfaces such as a USB drive, printer, or Ethernet. Reports are provided in a standardized format such as PDF, XLS or CSV.



## Customization solution

The analyzers manufactured by Anton Paar GmbH are designed as modules and can be combined to meet the customers' needs.

Alcolyzer systems are available as the bench-top Alcolyzer M (for selective alcohol determination) as well as the Alcolyzer 3001 system combining a density and specific gravity meter, Alcolyzer 3001 Sake (module) and a sampling unit.



### Alcolyzer Sake M

The Alcolyzer Sake M/ME uses a near infrared (NIR)-based method to selectively determine the alcohol content in less than 3 minutes. This module is for users who already have a density meter.

### Xsample 320

Xsample 320 is a peristaltic pump, which can be easily attached to the instrument. At the press of a button Xsample 320 automatically fills the sample into the measuring cells.

### Alcolyzer SAKE System

By combining the density meter DMA 4101/4501/5001, Alcolyzer 3001 Sake, and the sampling unit Xsample 320, the alcohol content, specific gravity (15/4), sake meter value, and sugar content can be measured at the same time.

### Xsample 320

The optional Xsample 320 helps daily operations and reduces errors due to manual loading.



# Benefits

- Measurement of refined sake using this Alcolyzer method is different from the analysis method designated by the National Tax Agency, but its principle and precision have been acknowledged.
- By using the Alcolyzer method, distillation is not necessary.
- Measurement results equivalent to those obtained by conventional methods can be obtained.
- Simultaneous measurement parameter (If Alcolyzer and a density meter are combined)

Density [g/cm<sup>3</sup>]  
 Specific gravity (15/4)  
 Alcohol content [%v/v]  
 Sake meter value  
 Extract  
 Baumé

- No constant temperature reservoir is required as the temperature is controlled by the incorporated thermostat.
- Certification service and support are offered by Anton Paar.



Alcolyzer Sake M	
Measurement range (alcohol)	0 %v/v to 20 %v/v
Repeatability (alcohol)	0.01 %v/v
Alcolyzer Sake system	
Measurement range (alcohol)	0 %v/v to 20 %v/v
Repeatability (alcohol)	0.01 %v/v
Measurement range (density)	0 g/cm <sup>3</sup> to 3 g/cm <sup>3</sup>
Repeatability	0.000 01 g/cm <sup>3</sup> (DMA 4101) 0.000 005 g/cm <sup>3</sup> (DMA 4501) 0.000 001 g/cm <sup>3</sup> (DMA 5001)
Temperature Mode	15, 20, 25 °C
Other specifications	
Temperature control technology	Peltier element
Typical measuring time	3 to 5 minutes
Display	Alcolyzer M: 10.4" TFT PCAP, 640 x 480 pixels Alcolyzer Sake system: 10.1" TFT WXGA (1280 x 800 pixels) PCAP touch screen
Internal storage	Alcolyzer Sake M: 1,000 cases Alcolyzer Sake system: 10,000 cases
Interfaces	Alcolyzer M: 4 x USB 2.0, Ethernet, CAN, VGA, RS-232 Alcolyzer Sake system: 4 x USB 2.0, Ethernet, CAN, VGA, RS-232, Ethernet, CAN
Printer settings	Baud: 9600 Parity: None Stop bit: 1 Data bit: 8CR
Power supply	AC 100 to 240 V, 50/60 Hz
Ambient conditions	For indoor use only
Ambient temperature	15 to 35 °C (59 to 95 °F)
Air humidity	Relative humidity: 10 to 90%, no condensation
Pollution degree	2
Over-voltage category	II

