

## Very small instrument. When comparing sizes, VISCO's compact size is obvious.

VISCO's size is significantly smaller when compared to the traditional B-type viscometer. The desks in quality control and research offices have various measurement devices, allowing for only a limited amount of available space. End-users have expressed, "I want to purchase a new measurement device, but I have no more space…" This means that the small size signifies a higher chance for the instrument to be implemented in the end-users' lab. Moreover, various preparations are needed to begin measurements, and the fact that VISCO is small and space-saving can provide the space needed for measurement and will ensure smoother operations.

	B-Type Viscometer	VISCO
Size	310mm × 318mm × 395mm	120mm × 120mm × 200mm
Weight	3400g	1200g (895g)



About 2co

# It's Even More Lightweight



VISCO is one-fourth the weight of B-type viscometers, a momentous development. From this, what was once impossible with B-type viscometers "pick up the instrument and carry to the on-site" is now possible. Picking up the instrument and carrying it to the site means, measurement values in the lab and on-site will be the same, freeing the end-user from the cumbersome work of converting measurement values which is attributed to the differences between the types of viscometers. There is the further economical merit of no longer needing to purchase multiple viscometers, as one unit of VISCO will be enough.





#### By Purchasing VISCO, Users will Have 2 Hours Freed Up Everyday

It is not only the instrument's body size that is small.

Commonly, B-type viscometers require 500mL of sample. When one measurement requires that much sample, to measure multiple specimens repeatedly can add up to enormous sample volume. This may be acceptable for samples that are available in large amount, but for samples that are only available in small quantities, user may have to give up taking viscosity measurement altogether.

VISCO is able to measure viscosity with 100mL, or even 15mL of sample. From the end-user's perspective, they can conserve a valuable sample, which leads to a reduction in running costs.

Furthermore, many of the sample that require viscosity measurement are sticky and viscous fluid. Such samples stick to the container, and are extremely difficult to wash off. This hassle of washing container was an issue that could not be separated from viscosity measuring. If sample volume is small, the amount of sample adhering to the container is also reduced – washing container is somewhat easier, adding one more benefit to VISCO.





As previously explained, in addition to requiring small sample volumes, to further enhance washability of the container, we made it possible to use disposable container that requires no washing to begin with. By using specially designed cup adapter for 90mL paper cup and 90mL plastic cup sold from ATAGO or commercially can be used. (May not be compatible for all.)

Conventional container is made of glass which made it difficult to use viscosity measurement devices on the food manufacturing floor that do not allow glass on site, but the use of disposable container can resolve this issue. All that's required is to wipe off the sample and throw away the container, which allows for spare time.

As a way to propose a new measurement method to end-users, ATAGO is offering the "VISCO Package A". This package contains ①VISCO main unit, ②cup adapter, ③90mL paper cup (qty. 50), ④90mL plastic cup (qty. 50), so that measurements with disposable containers is immediately possible when purchasing this package.



## Turn your field to a Lab

Because VISCO is such a small instrument, we made great efforts for easy carrying by making it battery-operated. When using the instrument at the production site, the power supply system may not always be accessible. In these cases, stretching an extension cord from the power supply to the instrument is one solution, but our goal was to eliminate this problem-causing element as much as possible for manufacturing facilities where people and things are always moving around. With a battery-powered instrument, there is no need to worry about tangled extension cords and wires – simply carry VISCO to the sample, and take a measurement.

VISCO makes viscosity measurements possible in any place, and any situation. Furthermore, because VISCO can be brought out to the field, it is not an exaggeration to say that viscosity measurement can be taken as crops are harvested. VISCO can run on batteries for approximately 7 continuous hours, so there is no need to worry about the batteries dying in the middle of the day' s. Additionally, the ease of carrying VISCO is not limited to the production floor but its effect extends to use in the lab. Of course, a standard AC power supply is provided as well, so each user is able to decide which method is easiest for them.

PP Printed in Japa

#### **Cause of Death: Pneumonia –**

# 123,000 People

The third leading cause of death in Japan is pneumonia. Of those, over 95% are elderly.

\* Aspiration pneumonia results from inhalation of water, food or stomach contents into lungs which leads to increased bacterial growth causing inflammation.

The leading cause of pneumonia is dysphagia. Because this is an issue related to chewing and swallowing, the "thickness" of food is important to consider.

There is a test called the Line-Spread Test (LST). It is used in the medical field to determine a food's "thickness".

Instead of referring to the LST as a viscometer, it may be more appropriate to call it a viscosity measurement kit. The user affixes the "measurement ring" in the center of the "viscosity measurement board", which has a round scale recorded on it. After pouring sample into the measurement ring, the user pulls the measurement ring up, causing the sample to spread from the center of the board toward the outer edges. The sample's movement is then read from the scale recorded on the viscosity measurement board, and the sample's movement time is also recorded. This is an extremely simple way to measure viscosity. The Japanese Swallowing Rehabilitation Society recommended it as a simple viscosity measurement method for medical clinics after their 2013 conference. However, it was also confirmed that oily samples can slip as they move from the center to the outer edge, and combined with the fact that it is rare for a food product to not contain oil, it is difficult to say that this is a perfect viscosity measurement method.

The measurement does not correctly correlate with the basis of measurement which comes from E-type viscometers.

It is available at a low price for ¥2,000, but the actual number of facilities who have implemented this method is still rather small. There is no custom for medical facilities such as hospitals and nursing homes to even measure viscosity in the first place. It could be said that there may be a tendency to avoid actually taking the measurements.

Due to the philosophy carried by registered dieticians, nurses, and caregivers of, "We must respect information learned through contact with the patient that cannot be translated into data; relying only on experiment data means neglecting the patient as an individual," the mindset to manage numbers has not taken root. However, aspiration pneumonia is the third largest cause of death in Japan, and awareness of this crisis is rising year after year as the medical field recognizes that preventing this from happening is an important topic. VISCO is surely an even more direct solution for the management of food viscosity.

VISCO has already been introduced to the medical catering industry with very positive results. This will provide a satisfactory market for VISCO to spread into as a foundation. Compared to LST, VISCO is superior in terms of the accuracy of the measurement results. As an instrument being introduced to clinics, the pricing is somewhat expensive, but because the only method currently being recommended is the extremely simple Line-Spread Test, we will surely be seen as pioneers through spreading VISCO into this field as a complete viscosity instrument.



### Cost is Halved



No matter how excellent an instrument may be, if the price is high enough to prevent the end-user from purchasing, it becomes a useless object to that end-user. No matter how dream-like an instrument is, if it remains dream-like and cannot actually be used, it becomes meaningless.

There were many roadblocks in developing VISCO. However, through those efforts, VISCO has come to have special features that excel in all ways, with regard to B-type viscometers. VISCO is a high-value product, but if one were to say that it has also become a high-cost product, that would not be true.

VISCO's list price of ¥150,000 is an amazingly low price that is under half the cost of other b-type viscometers available. Surely, this inexpensiveness marks the beginning of a new era.

This was made possible through ATAGO' s high capacity for a thorough list price reduction and in-house parts processing. ATAGO, by pursuing the essence of service toward customers by "offering a good product at a reasonable price", has vividly expressed this stance.

It is rare for a large factory to purchase only one viscometer. Normally, there is one viscometer per production line or department, and it is not unusual for a facility to possess dozens of viscometers. VISCO is an instrument that can answer the demand from customers regardless of company size, which is that "I want to be introduced to inexpensive instruments", a sentiment that can occur in any scenario.





## = Asking for $\frac{1}{1}$ minute of your time

VISCO requires "only 30 seconds" to assemble and set-up. The main unit seen in the picture makes it evident that the component that makes up the VISCO is extremely simplified. This permits speedy assembly.

Well then, let us go over the actual assembly procedure to set up the VISCO. First, attach the spindle then rotate the three pointed legs on the main unit until it locks. After that, place the main unit onto the base plate and then... the set-up is already finished. Only in a matter of 30 seconds.

Since the assembly did not take long, let us go over the lateral adjustment. The built-in gyro sensor shows necessary information on the main unit's screen allows to quickly and easily complete the task. For this also, 30 seconds will be more than plenty.

30 seconds to assemble and 30 seconds to adjust totaling to 1 minute, VISCO is "ready to measure." This light footedness is the characteristic of VISCO. It will never disappoint the user. In other words, less hesitation taking measurements, more likely that one will take the VISCO to places never imagined before.

