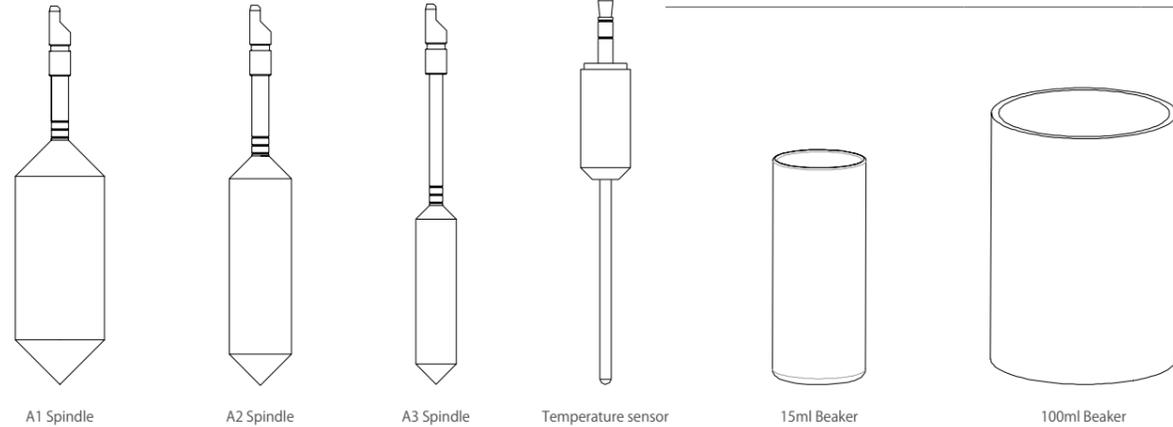


Optional Accessories

Part Name	Part No.	
Standard Liquid JS200	RE-89016	500ml
Standard Liquid JS500	RE-89017	500ml
Standard Liquid JS2000	RE-89019	500ml

Part Name	Part No.
A1 Spindle	RE-77104
A2 Spindle	RE-77105
A3 Spindle	RE-77106
Temperature sensor	RE-75540
15ml Beaker	RE-79100
100ml Beaker	RE-79101



Specifications Measurement range 1 to 350,000,000mPa·s, 1 to 350,000,000cP

Model	VISCO		Measurement accuracy	Viscosity ± 1% (Full scale) Temperature ± 0.2°C
Cat.No	6800		Speed	0.5 to 250 rpm, Number of speeds : 20
Measurement Scales	Viscosity · Temperature · Torque%		Sample Temperature Range	10.0 to 40.0°C / 50.0 to 104.0° F
Measurement range	Viscosity	A1 50 to 200,000mPa·s, 50 to 200,000cP A2 100 to 600,000mPa·s, 100 to 600,000cP A3 500 to 2,000,000mPa·s, 500 to 2,000,000cP (1mPa·s=1cP)	Ambient temperature	10 to 40°C
	Torque	0.0 to 100.0% (recommended torque: 10.0 to 100.0%)	Computer Output	Output: USB - PC
	Temperature	10.0 to 40.0°C / 50.0 to 104.0° F	Power supply	DC6V (AA alkaline batteries 1.5V × 4) AC adaptor : AC100 to 240V, 50/60Hz
Resolution	Viscosity	less than 10,000mPa·s : 0.1mPa·s more than 10,000mPa·s : 1mPa·s	Dimensions and Weight	Main unit : 120 x 120 x 200.6mm 1.2kg (excluding batteries, spindles and temperature sensor) Stand+screw: 0.5kg
	Torque	0.1%		
	Temperature	0.1°C		

An ultra lightweight version of the VISCO with an aluminum body case, legs, and stand is also available, please contact ATAGO.

All ATAGO products are designed and manufactured in Japan.

ATAGO CO., LTD.

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HACCP GMP GLP
ATAGO products comply with HACCP, GMP, and GLP system standards.

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* Specifications and appearance are subject to change without notice.

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VISCO™



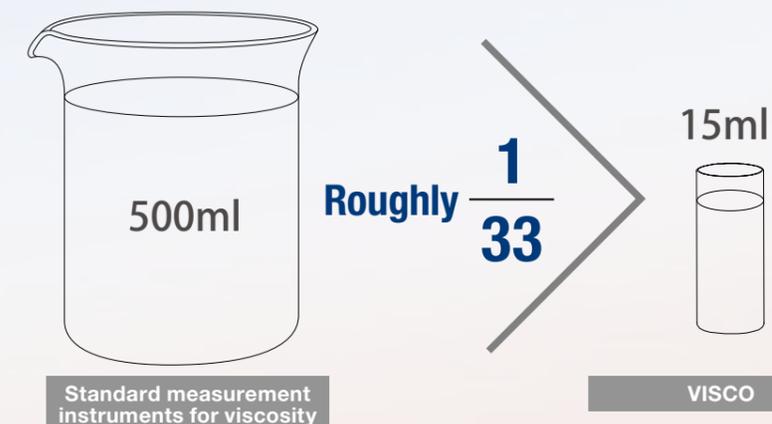
ATAGO®

ATAGO: Creating the Perfect Fusion of Innovation, Technology and Simplicity

ONE TOUCH™, ONE HAND™ and ONE BUTTON™.
Presenting the VISCO, a brand-new way of measuring viscosity with 3 simple **“ONE’s.”**

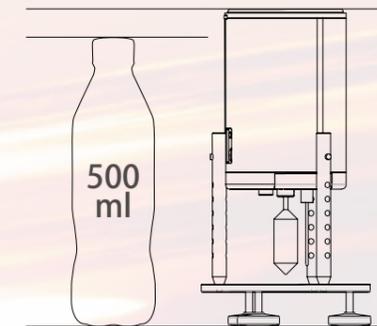
Uses Only 1/33 of the Standard Sample Amount

Standard measurement instruments for viscosity require a large amount of sample (500ml). VISCO is capable of taking measurements with just 15ml of sample. This is roughly 1/33 of the standard sample amount. Measurement can be done with only a small amount of sample, resulting in less waste of valuable sample and a significant reduction in cost.



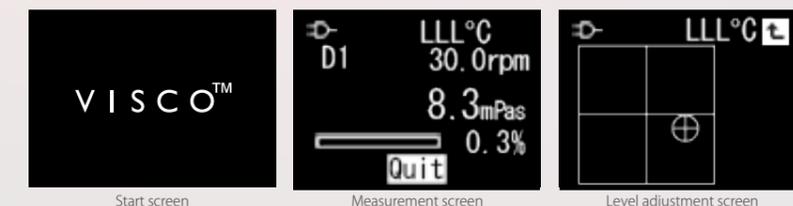
Compact and Easily Carried with One Hand

VISCO's sleek dimensions and weight (main unit: 12x12x20cm, 1.2kg) make it compact and easily carried with one hand. The instrument's legs can be folded up, making it further compact and allowing for even greater storage capabilities.



Easy to Read, Fully Digital Display

A fully digital display allows for anyone to quickly and easily read results. The simple display is easily and readily understood.

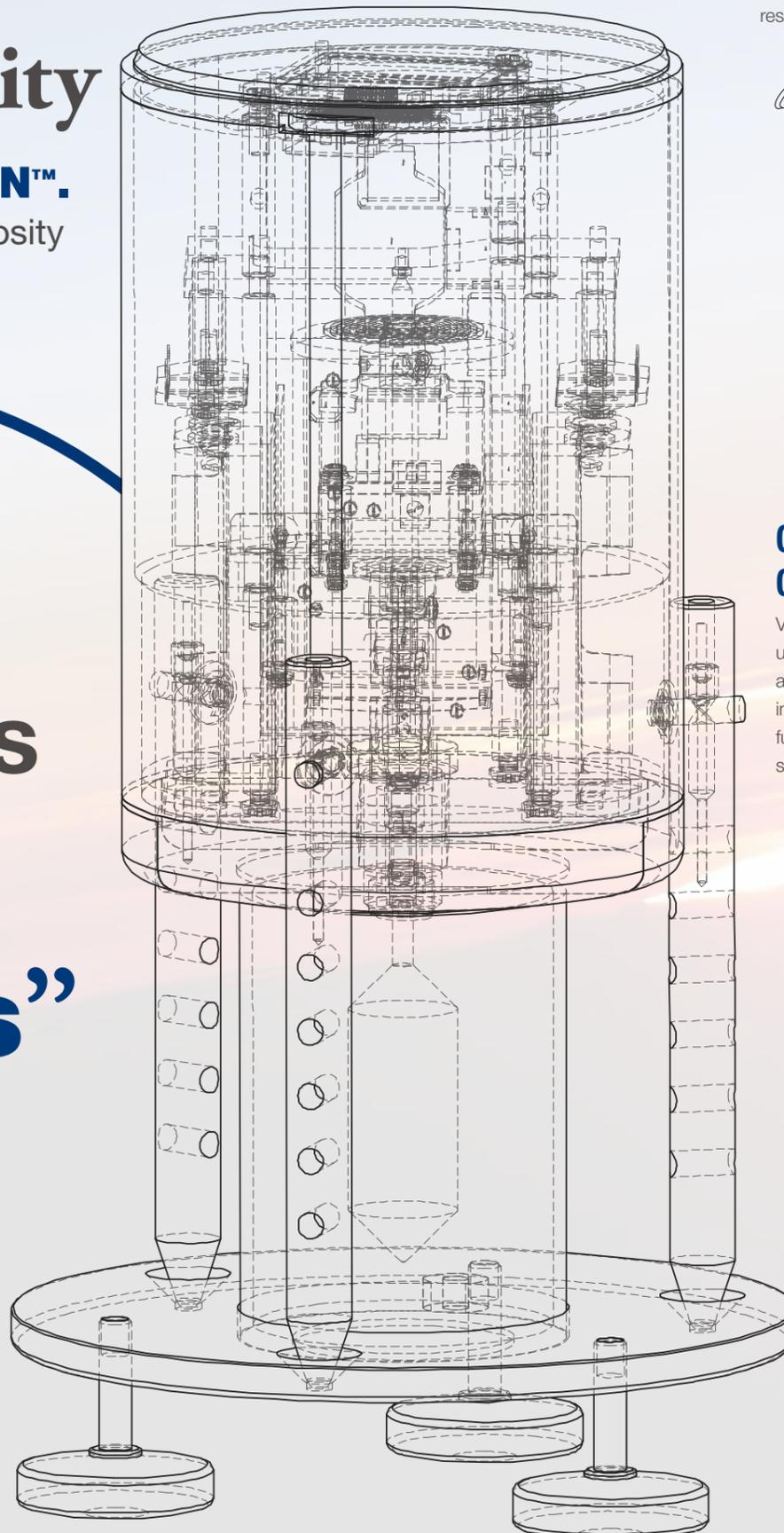


Quick Measurements Anywhere

Not only does VISCO run on AC power, but it can also operate on battery power. This allows for measurements to be taken anywhere, even in places lacking a power source.

The instrument can also be placed directly on the beaker, making it possible for quick and simple measurements to be taken.

No need to establish a specific location for measurement--with VISCO, you can take measurements anytime, anywhere.



VISCO's
3
“ONE’s”

Set-up

ONE TOUCH™

VISCO is very easy to set-up. The spindle can be attached with just "one touch"--simply insert the spindle in the instrument. Absolutely no complicated set-up required.

Preparation

ONE HAND™

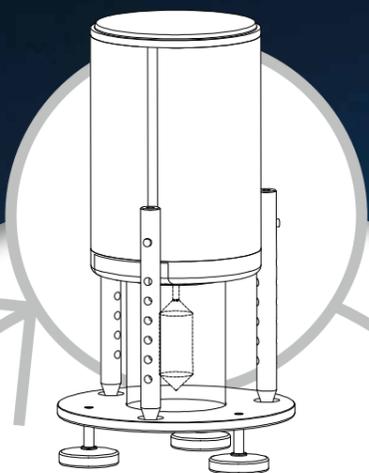
Measurement preparation can easily be done with just one hand. Place the beaker underneath the pre-set area and place the instrument on the stand. No troublesome height adjustment necessary.

Measurement

ONE BUTTON™

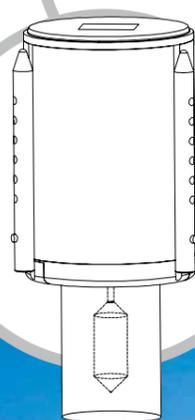
Operation requires only one dial button. All operations can be performed with the simple act of "sliding" or "pushing" the dial button. No more accidental operations due to pushing the wrong button.

Using the included stand and beaker

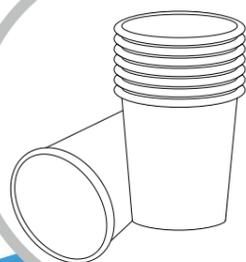


Measurement Methods

VISCO has several measurement methods. Select the measurement method most suitable for your application and conditions.



Placing the instrument directly on the included beaker



Using a disposable container

VISCO Package

Using disposable containers eliminates the hassle of cleaning after measurement. Package A, which includes a specialized adapter for use with disposable containers such as paper cups, is available at ATAGO.

Package A Cat.No.6810

- VISCO (main unit) Cat.No.6810
- Cup adapter (with 100pcs cups*) RE-78141

* The cup adapter comes with 50 paper cups and 50 plastic cups.



Cup adapter



100pcs cups



Cup adapter setup example

VISCO APPLICATION

Food and Beverage

Beverages (e.g. juice, etc.)



Viscosity is a critical parameter in beverage manufacturing, from the production phase all the way until the product reaches consumers.

Milk



In regards to milk, aside from whole milk (3.25%), there is reduced fat milk (2%), low-fat milk (1%) and nonfat (skim) milk. In general, nonfat milk has the lowest viscosity.

Tomato Juice/Purée



Tomato juice or purée must always flow through the production line under a constant, homogenized state. Viscosity management is indispensable to this process.

Sauce (Worcestershire sauce, thicker Worcester sauce, pork cutlet sauce, etc.)



There are many kinds of sauce. These include (in ascending order of viscosity): Worcestershire sauce, thicker Worcester sauce and pork cutlet sauce. In Japan, there are approximate levels or grades for viscosity determined by JAS.

Ketchup



Ketchup, a pseudoplastic fluid, is characterized by its propensity to remain in its bottle even when turned upside-down. Applying a bit of force (squeezing) to the bottle causes the ketchup to flow out. It is also known for reacting differently at varying temperatures.

Mayonnaise



Mayonnaise also remains in its bottle, even when turned sideways or upside-down and maintains high viscosity. The greater the force applied, the easier it will flow out and the viscosity will decrease.

Olive Oil



There are many vegetable based oils that are Newtonian fluids (a fluid that does not change viscosity even when force is applied). Olive oil is a Newtonian fluid.

Honey



Honey is a Newtonian fluid. Its viscosity is not affected by force and speed. Only temperature can cause a change in viscosity.

Jam



Imagine spreading jam on a piece of toast. The jam easily glides across the toast. Viscosity is a crucial factor in making jam spreadable. Managing the viscosity can be quite difficult, as jam contains solids.

Yogurt



Numerous factors throughout the manufacturing process, such as how much fat is left in the yogurt, pasteurization and pH management affect the final product and texture (viscosity).

Butter/Margarine



Butter is a Bingham plastic (a type of non-Newtonian fluid). It can not flow unless some degree of force is applied, but applying force past a certain degree causes it to become more malleable in proportion to the force.

Japanese Curry (curry roux)



Thickened curry (roux) is quite mainstream in Japan. Thickened curry is made by applying heat to flour, which changes it into a more paste-like consistency, resulting in an increase in viscosity. Even in the final processing stage of being sealed into a retort pouch, the curry roux must maintain the same viscosity to allow the same amount to extrude every time the same amount of force is applied.

Gelatin/Agar



Viscosity measurements can be used to check and manage the gelling process of gelatin or agar. However, if the gelatin or agar completely solidifies during viscosity measurement, a spindle-shaped gap will form, preventing measurements from being taken.

Household Essentials

Toothpaste



Toothpaste with a paste-like consistency is a Bingham plastic. It will not flow out unless the tube is squeezed. It is important for toothpaste to be at optimal viscosity. After applying the appropriate amount onto a toothbrush, toothpaste at just the right viscosity will break cleanly from the tube and retain its shape without flattening.

