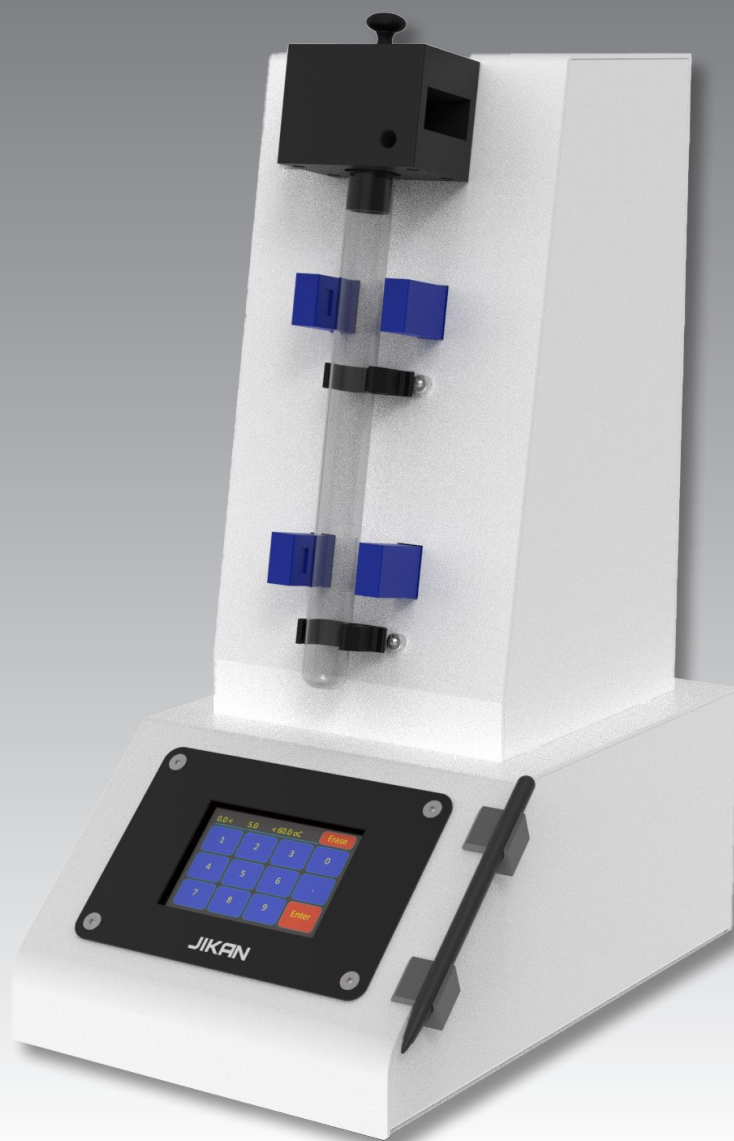


## OVM Series

Optical Viscometer Machine



Fully automatic measurement • Cost-Effective • Great range of viscosity measurement • Simple Installation • Adaptor for safety • Requires a small amount of liquid

## Jikan OVM-10

A falling ball viscometer determines a fluid's viscosity by measuring the time it takes for a precisely sized sphere to descend through the fluid over a set distance. The sphere's speed is influenced by the fluid's resistance, allowing for viscosity calculation based on factors such as sphere size, density, and fall time. Our viscometers, equipped with optical sensors, operate by accurately timing the sphere's descent. These sensors are strategically positioned along the fluid column to detect the sphere as it interrupts the light. By recording the time taken for the sphere to travel specific distances, the instrument calculates the terminal velocity. This velocity, in conjunction with the sphere's properties and fluid density, enables precise viscosity determination.

The Jikan OVM-10 is an affordable yet highly accurate optical viscometer designed to measure the viscosity of transparent or semi-transparent liquids. It can measure viscosities ranging from 1 to 10,000 cP using a cost-effective approach while offering precision comparable to that of high-end viscometers, making it a more accessible and affordable option for various applications.

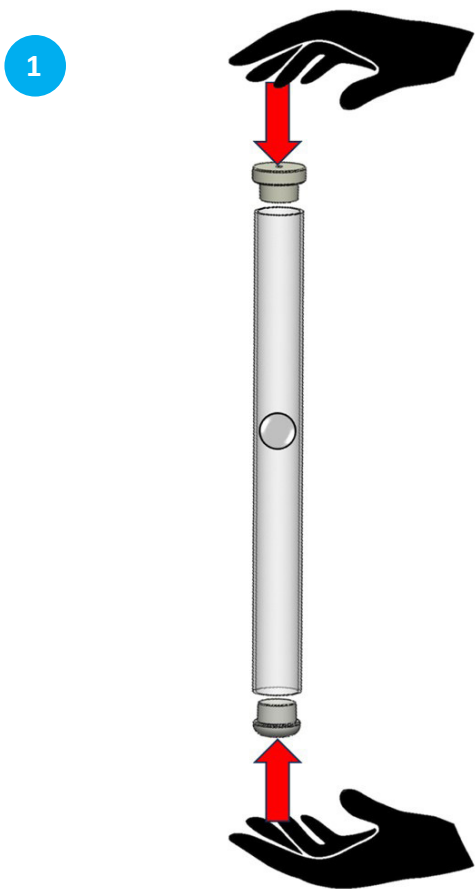
## User Interface

The OVM-10 device can be controlled via user friendly interface, allowing for quick and easy setup. The interface enables users to set and modify parameters. During operation, the interface displays all the device's operating parameters on the screen.

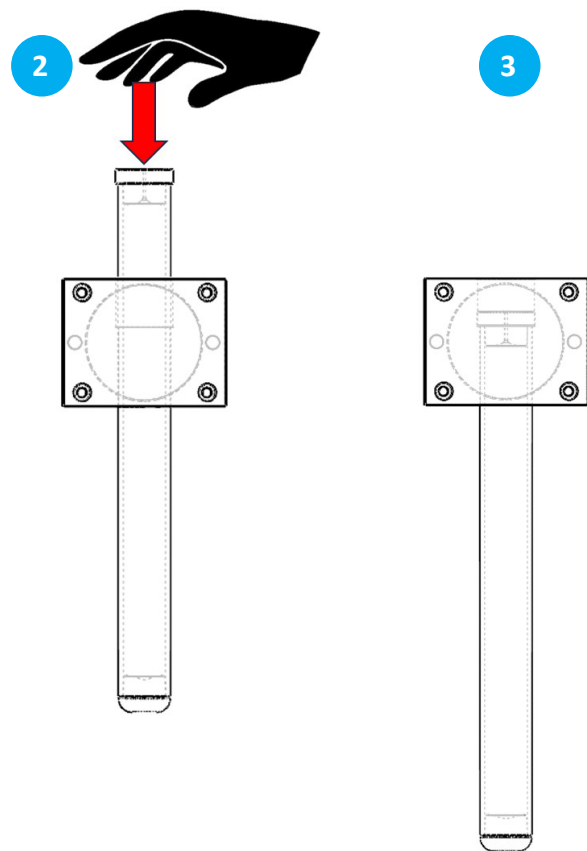
Key operating parameters are clearly presented within the interface. Notifications and error messages are displayed for user acknowledgment, eliminating any guesswork in troubleshooting.

## Functionality

The OVM-10 device operates with a straightforward procedure. Begin by pouring a specified amount of liquid into the test tube, ensuring that the steel ball is present in the tube. Next, place the tube in the designated location. After that, set the liquid's density on the interface and press start. As the steel ball passes through the optical sensors, the device automatically measures the time it takes for the ball to traverse a specified distance and calculates the liquid's viscosity. To ensure accuracy and repeatability, it is recommended to perform the test at least five times.



Add the sample liquid, insert the metal ball, and cap the tube without trapping any air bubbles.



Carefully insert the sample tube through the top slot and position it 1 to 2 centimeters below the lower holder.

## Jikan OVM-10 User Interface

After turning on the device, a screen will appear displaying the model and version of the device.

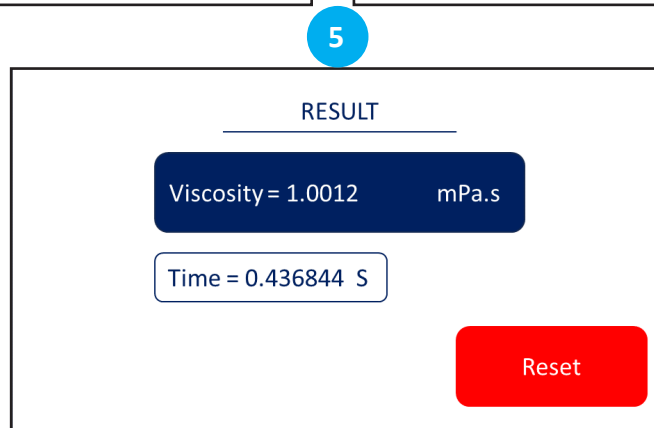
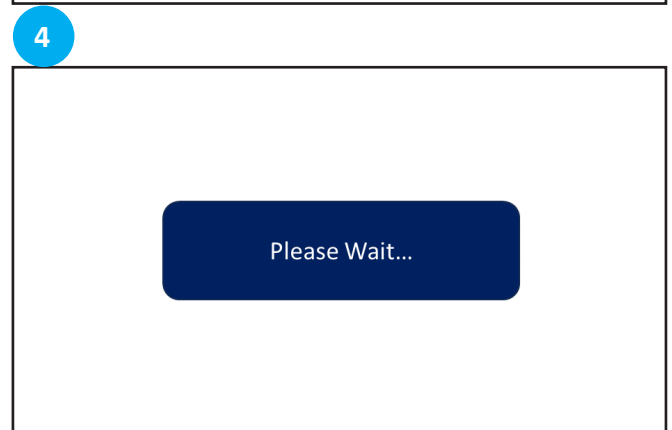
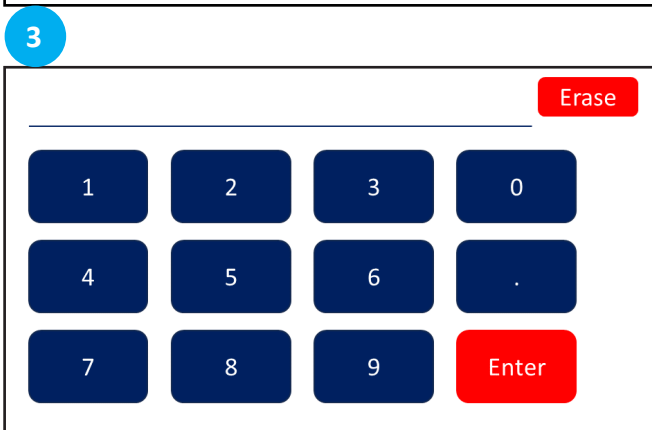
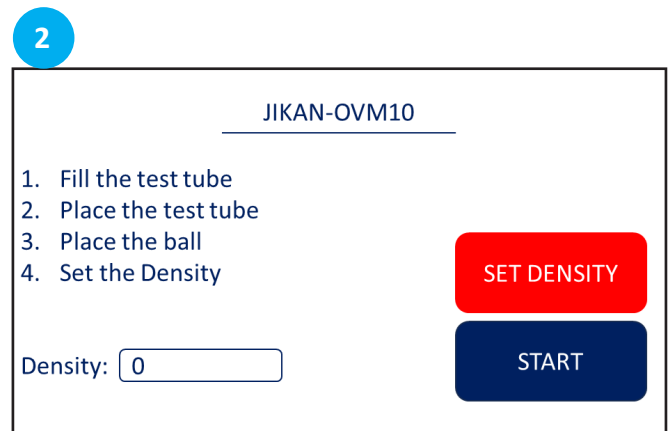
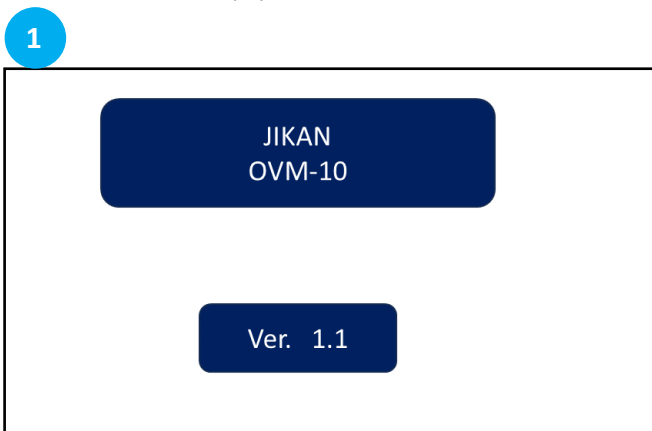
Following this, a screen will be shown with the device model at the top, and below it, the test procedure will be displayed. Once the steps mentioned in the user interface, including filling the test tube, placing the tube in its designated position, and positioning the ball using the magnet, are completed, the fluid's density must be entered by the user.

To do this, click on the "Set Density" button. A keyboard will appear, allowing you to enter the sample fluid's density, which should be in units of  $\text{kg/m}^3$ . After entering the density, press the "Enter" button to return to the main menu. If you have entered the number incorrectly, you can use the "Erase" button

to delete and re-enter the number.

Once all the steps have been correctly completed, press the "Start" button. At this point, the magnet holding the ball will release it, and the ball will begin to fall through the fluid with an initial velocity of zero. Until the ball passes in front of both sensors, the message "Please Wait..." will be displayed on the user interface.

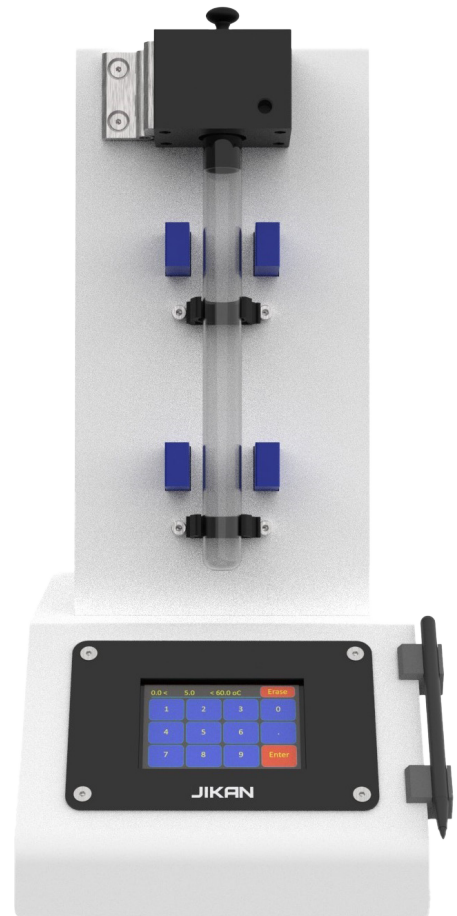
After the ball passes by both sensors, the final screen will display the results, including the time taken for the ball to travel the 10-centimeter distance between the two sensors and the calculated dynamic viscosity in units of  $\text{mPa}\cdot\text{s}$ . If you need to perform the test again, you can use the "Reset" button.



## Technical Specifications

Viscosity Range	1-10,000 cP*
Viscosity Measurement Accuracy	±1%
Repeatability	<1% of full scale range
Temperature Range	-20 °C to 120 °C
Humidity	20% to 80% RH, non-condensing
Input Ampere	4 A
Input Voltage	12 V DC
LCD	3.5 inch LCD Screen
Falling Ball	14 mm steel ball
Dimensions	Width: 160 mm Height: 350 mm Depth: 220 mm
Weight	3.7 Kg

\* The data for the higher and lower viscosity ranges are not calibrated, making the results unreliable.



## Key Features

- Simple Operation
- Cost-Effective
- Wide Range of Liquids
- Simple Installation
- Requires a small amount of liquid

## Accessories

- Test Tube
- Steel Ball
- Adaptor

# JIKAN

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