



# VERTEX

## TSV – 6M ROTARY VISCOMETER



### INTRODUCTION:

The TSV-6M Rotary Viscometer integrates cutting-edge touchscreen technology to provide quick, accurate, and convenient viscosity measurements. It features powerful, stepless debugging, allowing it to measure ultra-high viscosity samples with ease. Equipped with 30 user-defined test programs, it also stores 30 sets of historical test data for future reference.

The device boasts a 5-inch color touchscreen that displays various parameters and working conditions in a clear and intuitive format. With a rich array of measurement parameters, the system offers high accuracy, stable speed, and excellent anti-interference performance.

The viscometer also displays shear rate and viscosity curves, providing a comprehensive view of the sample's properties. Additionally, it supports a wide operating voltage, making it versatile in different environments.

The TSV-6M Rotary Viscometer is designed to be an excellent alternative to similar imported instruments, offering superior performance, ease of use, and reliable results.

### MAIN FEATURES:

#### 1. ARM Technology with Built-in Linux System:

The device is powered by advanced ARM technology and an integrated Linux system, ensuring a simple and intuitive operation interface. The system streamlines the creation of test programs and data analysis, making viscosity testing fast and easy.

## 2. **Accurate viscosity measurement:**

Each measurement range is automatically calibrated by the computer, ensuring high precision and minimal error for highly reliable viscosity readings.

## 3. **Comprehensive Display Content:**

The device offers a rich display of various parameters, including:

- Viscosity (both dynamic and kinematic viscosity)
- Temperature
- Shear rate and shear stress
- The percentage of the measured value within the full-scale range (graphically displayed)
- Range overflow alarm
- Automatic scanning
- Maximum measurement range for the current rotor speed
- Date and time, etc.

Kinematic viscosity can be displayed based on known density, satisfying different user requirements.

## 4. **Full-Featured Functionality:**

- Timed measurements
- 30 self-programmed test groups and the ability to store 30 sets of measurement data
- Real-time viscosity curve display
- Data and curve printing capabilities.

## 5. **Intuitive Front Level Adjustment:**

The device features an intuitive front-level adjustment mechanism for ease of use.

## 6. **Stepless Speed Regulation:**

The rotational speed can be adjusted from 0.3 to 100 revolutions per minute, with a total of 998 speed options, providing precise control over measurement conditions.

## 7. **Shear Rate to Viscosity Curve Display:**

The device can display a shear rate to viscosity curve in real-time. Users can also set the shear rate range for more detailed data analysis.

## 8. **Standard USB Interface:**

Equipped with a standard USB interface for easy data transfer. Simply insert a USB disk to directly copy the data for further use.

## 9. **Optional Pt100 Temperature Probe:**

- Wide temperature measurement range: -20°C to 300°C
- High accuracy of 0.1°C, offering precise temperature control and monitoring.

#### 10. Optional Accessories:

- Constant temperature bath
- Constant temperature cup
- Printer
- Standard viscosity samples (e.g., standard silicone oil)

### Performance Comparison:

The TSV-6M rotary viscometer features similar torque, rotor shape, rotational speed, and viscosity measurement range as imported viscometers. As a result, the viscosity data it generates is comparable to that of similar imported instruments.

### USES SCOPE:

The TSV-6M Rotary Viscometer is widely utilized across a variety of industries for precise viscosity measurement, including but not limited to:

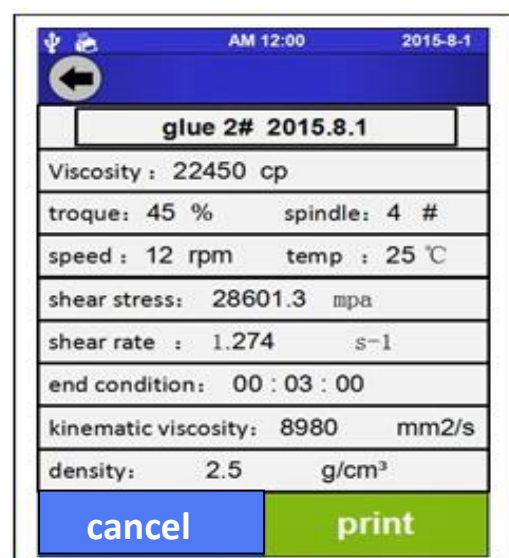
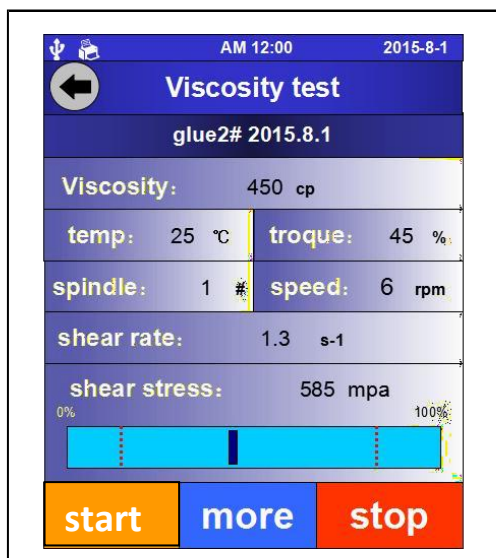
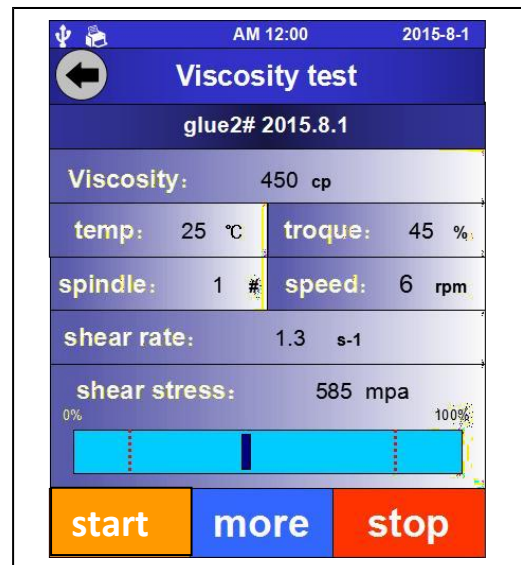
- Paints and Coatings
- Cosmetics and Personal Care Products
- Inks and Dyes
- Pulp and Paper
- Food and Beverages
- Oils and Lubricants
- Starch and Polymers
- Solvent Adhesives
- Latex Products
- Biochemical Products

This versatile instrument is ideal for industries where fluid consistency, texture, and stability are critical, ensuring high-precision measurement in a broad range of materials.

### DETAILED TECHNICAL PARAMETERS:

Model	TSV-2M	TSV-6M
Control / display mode	5-inch color touch screen	
Speed(r/min)	0.3–100 infinitely variable speed, a total of 998 speed options	0.1–200 infinitely variable speed, a total of 2000 speed options
Measuring range	Rotor 1- 4: 10-2M mPa.s, 300-400ml ULR: 0.6-1K, Rotor 18: 3 - 10K, Rotor 25: 480 - 1.60M, Rotor 31: 30 - 100K, Rotor 34: 20 - 200K	Rotor 1-4: 10–6M mPa.s ULR: 0.3-6K, Rotor 18: 1.5 - 300K, Rotor 25: 240 – 4.8M, Rotor 31: 15 - 300K, Rotor 34: 30 - 600K

Model	TSV-2M	TSV-6M
Rotor	No 1 - No 4 (Standard) Enhanced ultra-low viscosity adapter ULR (optional) Small sample adapters (rotors 18,25,31,34)(optional)	
Sample dosage	Rotor 1- 4: 300 - 400ml, ULR: 21ml, Rotor 18: 7ml, Rotor 25: 9ml, Rotor 31: 10.5ml, Rotor 34:11ml	
	K = 1000; M = 1000000	
Measurement error	±1% (Newtonian liquid)	
Repetitive error	±0.5% (Newtonian liquid)	
Show shear response / shear rate	standard configuration	
Timing function	standard configuration	
Real-time display Viscosity curve	Temperature - time curve Viscosity - time curve (The rheological curves of shear rate and viscosity can be displayed by optional data processing software)	
Kinematic viscosity	Density of samples to be entered	
Temperature measurement function	Standard temperature probe interface (optional temperature probe)	
Automatic Scanning Function	Automatically scan and recommend the preferred combination of rotor and rotation speed	
Maximum measurement range	Automatic display of selected combinations of rotor and rotation speed. Measurable viscosity range	
Self-built Measuring Procedures	Up to 30 groups (including rotor, speed, temperature, time, etc.)	
Preservation of measurements	Up to 30 sets of data (including viscosity, temperature, rotor, speed, shear rate, shear stress, time, density, kinematic viscosity, etc.)	
Put a seal on	Data, curve can be printed (standard print interface, need to buy printer)	
Data output interface	USB : can insert U disk and copy data directly RS232: Connect Computer	
Thermostatic	Selections (including various viscometer special thermostatic tank, thermostatic	
Components	Cup, temperature control device, heating furnace	
Working power supply	Wide voltage operation (110 V/60 Hz or 220 V/50 Hz)	
Outline dimension	300 × 300 × 450(mm)	



## OPTION:

### 1. Small volume sample adapter

Includes No. 18/25/31/34 rotor, sample holding cylinder, connecting frame, retaining ring, knob and circulating constant temperature water jacket; Suitable for measuring rare samples. Each measurement requires a sample size of 7-11ml depending on the rotor.



SSR Non - circulating  
constant temperature water jacket



SSR PLUS Thermostatic water jacket is available



NO 18,25,31,34 Rotor

## 2. Enhanced ultra-low viscosity adapter (ULR)

Designed for low viscosity fluid measurement, there are two specifications for jacket type and non-jacket type, with a minimum detection limit of 1cP, depending on the type of viscometer used



## 3. Temperature Probe (Temperature Sensor)

Temperature Probe (Temperature Sensor)

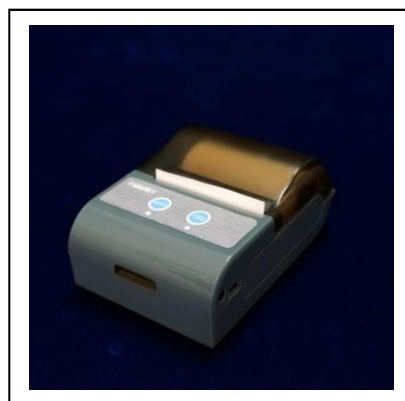
Temperature measurement range: -20-300°C

Measurement accuracy: 0.1°C



## 4. Micro thermal printer

Direct connection with a viscometer, print data, Print curve



5. Special constant temperature bath for viscometer DC0506W

Temperature control range: -5 to 100 °C Temperature control accuracy: 0.1 °C

Opening size: 145\*145\*150 (L W D) can be put into a 500ml ordinary beaker

