

# Viscotester

## VT-05/06

### Uni-Cylinder Rotational Viscotester Allows Easy Measurement of Fluid Viscosity



The VT-05/06 is designed for quality control applications in the manufacturing process of industrial products such as petrochemicals, paint, and adhesives, as well as foodstuffs. Viscosity measurements covering a wide range are possible, such as gear oil used in construction machinery. Measurement is performed by simply submerging a rotor in the fluid. The resistance to rotor movement caused by the viscosity (torque) is measured to obtain direct readings.

- Compact and light weight make the unit easily portable and allow operation with one hand
- Can be powered by alkaline batteries, nickel-hydrate rechargeable batteries, or AC adapter
- Direct indication of viscosity in millipascal-seconds or decipascal-seconds (SI units)
- Dedicated stand for measurement available as option

#### [Usage]

1. Attach rotor to unit and hold unit in the hand or place on dedicated stand. (Unit should be approximately horizontal in either case.)
2. Insert rotor in sample fluid, turn power on, and select rotor number.
3. Press start button and read indicated viscosity.

\*VT-06 allows use of No. 1 rotor, No. 2 rotor, and supplied extension rod to reach fluid at a greater distance.

## Specifications

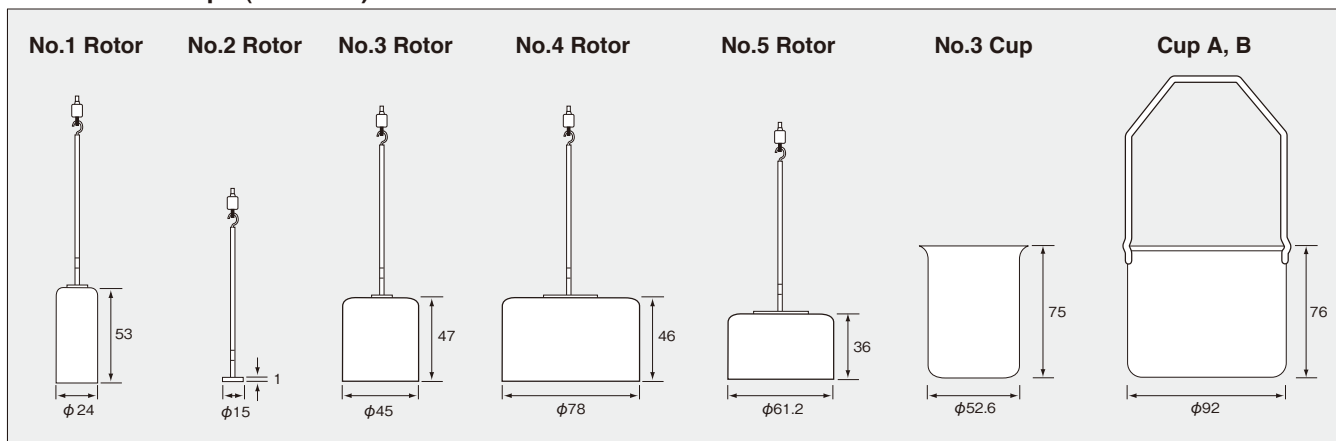
	VT-05 (Low viscosity)	VT-06 (High viscosity)
Measurement range	No. 4 rotor: 2 to 33 mPa·s No. 5 rotor: 15 to 150 mPa·s No. 3 rotor: 50 to 300 mPa·s	No. 3 rotor: 0.3 to 13 dPa·s (with No. 3 cup) No. 1 rotor: 3 to 150 dPa·s (with JIS 300 mL beaker*1) No. 2 rotor: 100 to 4000 dPa·s (with JIS 300 mL beaker*1)
Sample fluid capacity	Approx. 460 mL (with Cup A or Cup B)	No. 1 and No. 2 rotor (with JIS 300 mL beaker*1) approx. 300 mL No. 3 rotor (with No. 3 cup) approx. 170 mL Clearance between rotor end and cup bottom: about 15 mm
Measurement accuracy	Within ±5 % of maximum measurement range for each rotor	±10 % of indicated value, reproducibility ±5 %
Rotor speed	62.5 rpm	
Power supply	IEC LR6 (size AA) alkaline batteries, nickel-hydrate rechargeable batteries, AC adapter VA-05J	
Dimensions and Weight	175 (H) × 77 (W) × 40 (D) mm (without protruding parts), Approx. 260 g (without batteries)	
Supplied accessories	No. 3 rotor (dia. 45 × 47 × 160 mm) SUS304 1 No. 4 rotor (dia. 78 × 46 × 159 mm) A1050 (alumite) 1 No. 5 rotor (dia. 61.2 × 36 × 149 mm) A1050 (alumite) 1 Cup A (dia. 92 × 76 mm, without hole) A1050 (alumite) 1 Cup B (dia. 92 × 76 mm, with hole) A1050 (alumite) 1 IEC LR6 (size AA) alkaline batteries 4	No. 1 rotor (dia. 24 × 53 × 166 mm) SUS304 1 No. 2 rotor (dia. 15 × 1 × 113 mm) SUS304 1 No. 3 rotor (dia. 45 × 47 × 160 mm) SUS304 1 No. 3 Cup (dia. 52.6 × 75 mm) SUS304 1 Extension rod (900 mm · 300×3) SUS304 1 IEC LR6 (size AA) alkaline batteries 4

\*1 JIS R 3503 : 1994, φ78×103 (H)

### Options

Product name	Product number
Stand	VA-04
AC adapter	VA-05J

## Rotors and Cups (unit: mm)



## Sample amount for measurement

	VT-05	VT-06
Cup A	approx.460 mL	—
No.3 Cup	—	approx.170 mL
Commercially available 300 mL beaker	—	approx.350 mL

Note: For certain fluids, readings may differ slightly from other viscometers, depending on properties of target fluids, mechanical factors, as well as specific gravity, rotor speed, and other aspects.

## CGS Unit and SI Unit

P(poise), cP(centi poise),

Pa·s(pascal-seconds), dPa·s(decipascal-seconds),

mPa·s(millipascal-seconds)

$$1\text{cP} = \frac{1}{1,000}\text{Pa}\cdot\text{s} = 1\text{mPa}\cdot\text{s}$$

$$1\text{P} = \frac{1}{10}\text{Pa}\cdot\text{s} = 1\text{dPa}\cdot\text{s}$$

## Viscotester measurement examples (for reference)

Product type	Viscosity	Viscotester	Rotor
Newtonian fluids			
Milk	2.6 mPa·s	VT-05	No.4
Soy sauce	5 mPa·s	VT-05	No.4
Lactic fermented beverage	28 mPa·s	VT-05	No.5
Olive oil	71 mPa·s	VT-05	No.5
Castor oil	6 dPa·s	VT-06	No.3
Starch syrup	1 000 dPa·s	VT-06	No.2
Non-Newtonian fluids			
Tomato juice	230 mPa·s	VT-05	No.3
Condensed milk	16 dPa·s	VT-06	No.1
Chocolate syrup	25 dPa·s	VT-06	No.1
Tomato ketchup	43 dPa·s	VT-06	No.1
Pure honey	76 dPa·s	VT-06	No.1
Toothpaste	320 dPa·s	VT-06	No.2
Starch paste	310 dPa·s	VT-06	No.2

\* Measurement temperature: 23 °C

\* Specifications subject to change without notice.

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