

Viscotester VT-03F/04F

Low viscosity

High viscosity

A wide range of viscosity measurement



This product is designed for a wide range of viscosity measurements. It is suitable for checking industrial substances such as heavy oil, paint, and adhesives. It can be used for quality control in manufacturing processes of foodstuffs and other products. When inspecting construction vehicles and other machinery, the unit can serve to measure not only the viscosity of hydraulic oil but also of light spindle oil, gear oil, etc. The unit employs the rotating cylinder principle. A rotor turning at constant speed is inserted into the liquid to be measured. The resistance to rotor movement caused by the viscosity (torque) is measured using a special mechanism to obtain direct readings in millipascal-seconds (mPa.s) or decipascal-seconds (dPa.s).

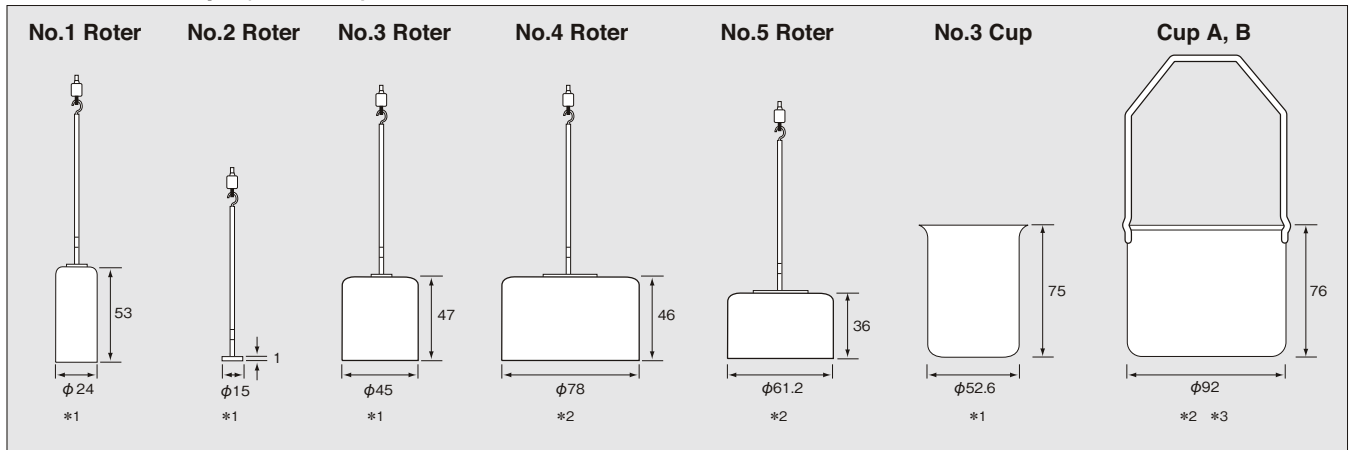
- Compact size, can be operated with one hand
- Battery powered design allows use anywhere
- Quick startup shows readings immediately after turn-on
- Direct readings in millipascal-seconds or decipascal- seconds (SI units)
- Stand and AC adapter available as options

Specifications

	VT-03F	VT-04F
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*2) No. 2 rotor: 100 to 4000 dPa·s (with JIS 300 mL beaker*2)
Sample fluid capacity	Approx. 460 mL (with Cup A or Cup B)	No. 1 and No. 2 rotor (with JIS 300 mL beaker*2) 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 (and reproducibility for VT-04F)	Within ±5 % of scale maximum (using supplied cup A or cup B) Scale calibrated according to JIS Z 8809 : 2000 viscosity calibration standard	Measurement accuracy ±10 % of indicated value Reproducibility ±5 % (calibrated with silicon oil)
Rotor speed	62.5 rpm	
Power requirements	6 V DC (four IEC R6P batteries) or AC adapter VA-05A or B*1 Current consumption at maximum torque approx. 100 mA	6 V DC (four IEC R6P batteries) or AC adapter VA-05A or B*1 Current consumption at maximum torque approx. 300 mA
Dimensions	98 (W) × 181 (D) × 40 (H) mm (without protruding parts)	
Weight	Approx. 570 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) A1050 (alumite) 1 Cup B (dia. 92 × 76 mm) A1050 (alumite) 1 IEC R6P (size AA) battery 4 Instruction manual 1 Inspection certificate 1	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 Rotor extension (900 mm × 300 × 3) SUS304 1 IEC R6P (size AA) battery 4 Instruction manual 1 Inspection certificate 1
Optional accessory	AC adapter VA-05A or B*, Stand VA-04	

*1 VA-05A, 120 V VA-05B, 220 V *2 JIS R 3503 : 1994, φ78×103 (H)

Rotors and Cups (unit: mm)



*1 Material: Stainless steel *2 Material: Aluminate *3 Cup B has a 30 mm diameter hole at the bottom. Use Cup B to measure viscosity by directly by dipping Rotor in the fluid.

Sample amount for measurement

	VT-03F	VT-04F
Cup A	approx.460 mL	—
No.3 Cup	—	approx.170 mL
Commercially available 300 mL beaker	—	approx.350 mL

CGS Unit and SI Unit

P(poise), cP(centi poise),
Pa·s(pascal-seconds), dPa·s(decipascal-seconds),
mPa·s(millipascal-seconds)

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

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

The example of measurement by Viscotester

Product Name	Temperature	Viscosity
Ketchup	24 °C	18 dPa·s
Mayonnaise	23 °C	80 dPa·s
Condensed Milk	21.5 °C	20 dPa·s
Honey	21 °C	13 dPa·s
Strawberry Jam	23 °C	60 dPa·s
Sweet Corn Soup stock	22 °C	22 dPa·s
Chocolate Paste	21 °C	380 dPa·s
Toothpaste	20.5 °C	300 dPa·s
Pomade	21 °C	450 dPa·s
Shoe polish cream	20 °C	120 dPa·s
Castor Oil	20 °C	7 dPa·s
Enamel	19.5 °C	45 dPa·s
Water	20 °C	0.01 dPa·s

(Those measurement value are only products of Japanese make)

* Specifications subject to change without notice.



ISO 14001 RION CO., LTD.
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