

**WEIBER**  
Digital **Viscometer**

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### Working principle

1) The program-controlled motor rotates at the given velocity controlled by a program and makes the rotary axis of the viscometer to revolve, and through a torque sensor, then drives the standard rotors to rotate, the rotors will subject to a torque moment proportional to liquid viscosity because of the liquid viscose hysteresis. The torque moment will be measured by the sensors and processed into the viscosity and shown on the display. In order to extend the measuring range, 4 rotors with 4 different velocities were used in this instrument.

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2) To work in a wide range of  $10\text{mPa}\cdot\text{s} \sim 100000\text{ mPa}\cdot\text{s}$ , the instrument was designed and manufactured with 4 rotors and 4 different velocity for each, which enable it to measure any viscosity value in the given range. On the front control panel, 5 operation keys are used: Up and Down, Left and Right, Return and Confirm. When instrument powered-on, the display showed the rotors and velocities used in the last operation that can be checked by selecting the correlating Up and Down, Left and Right keys. To measure a liquid, first estimate the its viscose range, then select the rotors and velocities by using Up and Down, Left and Right keys, followed by mounting the selected rotors on the instrument, press the Return key to start measuring. The instrument equipped with a data memory to store such operation parameters as the measuring range, rotors and velocities, coefficients and the measured results. The micro controller can adjust the motor rotation velocity based on user's requirement. With RS232 port on instrument, the data communication between instrument and computer can be made.

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3) The rotor bracket is used for the protection of rotors and the stability of the measurement, a more reliable measuring result can be made by using the protection bracket.

A broad range of measurement is now available in a single instrument-the multi-range Acm 52301 digital viscometer.

Superior repeatability and linearity is insured by a design which incorporates a unique combination of a proprietary pivot less mechanism with a torque balance servo system.

The power of the Acm 52301 lies in its multi-range capability which enables a five-fold increase in measurement range over conventional models providing unparalleled cost performance and convenience.

### Features And Benefits

Our Digital rotary viscometer is a new digital product based on the single chip micro-processor technologies and used for determining the liquid viscose capacity and the absolute viscosity. Comparing with other similar products, this instrument has the following features:

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- High measuring accuracy;
- Stable in measured display;
- Easy operation and read-out;
- Excellent in Anti- interference.

Weiber viscometer has been widely used to determine and measure the liquid viscosity in many applications such as grease, painting, pharmacy and adhesives.

### Main technical data

- 1) Measurement range: 10mPa·s ~ 100,000 mPa·s;
- 2) Rotor types: 1#, 2#, 3# and 4# rotors;
- 3) Rotor velocity: 6 rpm, 12 rpm, 30 rpm, and 60 rpm;
- 4) Operation modes: Manual and automatic;
- 5) Measurement error:  $\pm 5\%$  (Newton liquid)
- 6) Dimensions: 105 mm X 120 mm X 160 mm (the base not included);
- 7) Net weight: 2.5 Kg (the base not included);
- 8) Operation conditions
  - a) Ambient temperature: 5°C~ 35°C?
  - b) Relative Humidity(RH): not greater than 80%;
  - c) Power supply: Voltage--220 $\pm$ 22V, Frequency-50 Hz $\pm$ 0.5Hz;
  - d) No electro-magnetic interference, no severe vibration and no corrosion gases in Instrument surrounding area;



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