

Rheomat RM 180 Viscometer

Key Features:

- **The Rheomat RM180:** is a portable, easy to use viscometer, used primarily for quality control and product development. It can be used manually using simple push buttons on the keypad or using a personal computer and optional software. The Rheomat can use concentric cylinders, TV spindles and ISO 2555 measuring systems. It uses a rechargeable battery for portability or in the laboratory it has its own stand and power supply. The data is displayed on the Rheomats' Liquid Crystal Display and can be downloaded to printer or personal computer. Displayed instruction is available in English, French, Spanish, German, Italian or Dutch. Typical applications for the Rheomat include cosmetics, food and coatings.

- **Computer communication:** An RS232 serial port is available for direct connection to your PC. A Centronics parallel port provides a direct link to a printer.

- **Single point measurements:** Single point measurements can be made in the Manual mode where you can enter the shear rate. Viscosity is displayed along with other parameters including temperature, torque, measuring system and stress. Pressing the printer key will print the values directly to a printer.

- **Step programs:** In the automatic mode you can choose between programs recording 8 measuring points at a time, going up in shear rate and then down. This allows for a flow curve with 15 data points obtained automatically.

- **Portability and "Stand-alone":**

The Rheomat has a built-in replaceable rechargeable battery for portable operation. It can also be used in the laboratory as a "stand-alone" viscometer. The Rheomat is easy to use and the viscosity data can be displayed, stored or output to your PC or printer.



- **Versatility:** The design of the RM180 allows measurements to be made on a sample in any container. While attached to the viscometer, the open end of the measuring tube is immersed into the sample no matter what container the sample is in.

- **Keypad operation:** A Liquid Crystal Display allows for clear instruction to prompt the user for input parameters. Keypad symbols allow for easy connection to a Personal Computer and calibration function.

- **Viscosity determination:** Can be made using measuring systems including concentric cylinders according to DIN 53019 for determination of apparent viscosity. TV spindle geometry is used for UD measurement values. Kinematic viscosity determination can be measured by inputting the sample density.

- **Measurement principle:** The Rheomat RM180 is a rotational viscometer that uses a motor driven bob (or spindle) that rotates within a fixed cylinder, which allows for a defined geometry. The shear resistance of the sample in the gap allows for the measurement of motor torque. The viscosity can then be derived knowing the shear rate and motor torque (shear stress).

- **Conformance to DIN specifications:** Standardized measuring systems consist of matched measuring bob and tube and are concentric cylinder systems that conform to DIN specification 53019.

- **Temperature control with closed measuring tubes:** Each tube comes with a cap to allow for the enclosed sample to be immersed in a water bath for precise temperature control. The measuring stand is designed to hold the measuring head while the tube is immersed in a water bath.

- **Temperature sensor:** Each measuring head comes with a built in PT100 measuring probe to allow for direct measurement of the sample. The temperature is displayed on the LCD and in the output data.

- **Operational software:** The Rheomat RM180 can be operated by optional software that allows for full data evaluation and instrument control.



Instrument Specifications

Measuring Principle	Rotational viscometer with concentric measuring systems
Rotation Speed	
Range	5 to 1000 min ⁻¹
Accuracy	± 0.5% of the actual value
Shear Rate with DIN Systems	6.5 to 3230 s ⁻¹
Torque Range	.25 to 7.5 mNm
Viscosity Range	1 to 10 ⁶ mPa s
Temperature Range	0.0° to 99.9°C
Dimensions (w x d x h)	4.1 x 5.3 x 13.8 in 105 x 135 x 350 mm
Weight	3.5 lb 1.6 kg
Interface	Centronics 25-pin female; RS 232C; bidirectional 25-pin male
Battery	Rechargeable battery with capacity for 1 hour of measurement
Power Supply/Charger	100-240 V AC; 50/60 Hz