Elcometer 2300 Rotational Viscometers

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At a glance:

Accurate, easy to use & reliable

Clear backlit LCD shows all the necessary data

Quick connect spindles

Selectable speed for wide range of viscosity & shear rate measurements

Can be used in accordance with:	
ISO 2555	ISO 2884
ASTM D 1296	ASTM D 4287
BS 3900 A7	

The Elcometer 2300 range of rotational viscometers measures the viscosity of liquids in accordance with several standards.
Using a rotational viscometer, the properties of liquids and their resistance to shear or flow can be accurately measured.

Available in four model variants, with a large selection of speeds, spindles and accessories, this range ensures determining the viscosity of liquids has never been easier.

- Accurate, easy to use and reliable:
  Easy to use control panel.
- Clear, backlit LCD display:
  Shows viscosity reading in cP or mPa, spindle rotation speed, % torque, sample temperature, auto range, shear rate and shear stress.
- Quick connect spindles:
  Rapid and simple attachment to any of the Elcometer 2300 rotational viscometers.
- Selectable speeds:
  Provides a wide range of viscosity and shear rate measurements.
- Wide range of spindles and accessories:
  Versatile viscometer can test any liquid.
- RS232 interface:
  Allows for data download and complete control of spindle speed via PC on RV2 models.
- Temperature probe:
  Directly measure sample temperature.
- ViscosityMaster™ Software:
  Powerful yet easy to use software specifically designed to maximise the versatility of the viscometer. Stores data along side associated photographs, test notes and any other information.

Rotational viscometers & other viscosity products

Rotational Viscometers and Cone & Plate are used to gather data on a material's viscosity behaviour under different conditions. They are ideal for determining viscosity of liquids which do not depend solely on temperature & pressure.

Flow cups and dip cups - Frikmar, Zahn, Shell etc.- measure viscosity using the process of flow through an orifice. This is used as a relative measurement & classification of viscosity. This kinematic viscosity is expressed in seconds of flow time which can be converted into Centistokes.

Elcometer offer the most comprehensive range of flow cups, dip cups, cone & plate and rotational viscometers to meet your viscosity requirements.

		Elcometer 2300 RV1-L	Elcometer 2300 RV1-R
Low to medium viscosity		•	
Medium to high viscosity			•
Backlit LCD		•	•
Readings (cP & mPa)		•	•
Sample temperature measurement		•	•
Measuring range		3 – 2,000,000mPa	20 – 13,000,000mPa
Accuracy of full scale		±1%	±1%
Max. altitude above sea level		2000m	2000m
Surge Class II		•	•
Contamination level 2		•	•
Operating voltage	**UK 240VAC 50Hz**	•	•
	EUR 220VAC 50Hz	•	•
	US 110VAC 60Hz	•	•
Speeds		0.3, 0.5, 0.6, 1, 1.5, 2, 2.5, 3, 4, 5, 6, 10, 12, 20, 30, 50, 60, 100, 200 rpm	
Speed accuracy		< 0.5 rpm of the absolute value	
Thermometer	**Range**	-15°C to +180°C / 5°F to 356°F	
	Resolution	0.1°C / 0.1722°F	
	Accuracy	± 0.1°C / 0.1722°F	
Power consumption		23W	
Dimensions (of carry case)		495 x 420 x 200mm / 19.5 x 16.5 x 8”	
Weight (including carry case)		9kg / 20lb	

		Elcometer 2300 RV2-L	Elcometer 2300 RV2-R
Low to medium viscosity		•	
Medium to high viscosity			•
Backlit LCD		•	•
Readings (cP & mPa)		•	•
Sample temperature measurement		•	•
Measuring range		3 – 2,000,000mPa	20 – 13,000,000mPa
Accuracy of full scale		±1%	±1%
Max. altitude above sea level		2000m	2000m
Surge Class II		•	•
Contamination level 2		•	•
Operating voltage	**UK 240VAC 50Hz**	•	•
	EUR 220VAC 50Hz	•	•
	US 110VAC 60Hz	•	•
Speeds		0.3, 0.5, 0.6, 1, 1.5, 2, 2.5, 3, 4, 5, 6, 10, 12, 20, 30, 50, 60, 100, 200	
Speed accuracy		< 0.5 of the absolute value	
Thermometer	**Range**	-15°C to +180°C / 5°F to 356°F	
	Resolution	0.1°C / 0.1722°F	
	Accuracy	± 0.1°C / 0.1722°F	
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Packing List Information

All 4 models are packed in a portable, hard carry case and contain: Viscometer head, column with head mounting bracket, base, box spanner tool, spindle guard, power supply cable, storage rack, PT100 temperature probe, operating instructions.

In addition the following items are also supplied:

Elcometer 2300 RV1-L: Spindles L1 to L4, RS232 connection cable & ViscosityMaster™ software for data transfer from viscometer to PC only.

Elcometer 2300 RV1-R: Spindles R2 to R7, RS232 connection cable & ViscosityMaster™ software for data transfer from viscometer to PC only.

Elcometer 2300 RV2-L: Spindles L1 to L4, RS232 connection cable & ViscosityMaster™ software for bi-lateral data transfer between viscometer and PC.

Elcometer 2300 RV2-R: Spindles R2 to R7, RS232 connection cable & ViscosityMaster™ software for bi-lateral data transfer between viscometer and PC.

Spindles & Accessories

R spindle set complete with additional R1 spindle (highlighted)

Spindles
Each Elcometer 2300 is supplied with a set of spindles as standard, which are suitable for use with both Newtonian & non-Newtonian fluids. The large R1 spindle for low viscosity liquid is supplied on request.

Small sample adapter

Small sample volume adapter
Consists of a cylindrical sample chamber which can be used in conjunction with spindles TL (for low to medium viscosity) or TR (for medium to high viscosity). Used to measure shear rate and shear stress of small volumes between 8 and 13ml / 0.27 and 0.44fl.oz.

Low viscosity adapter

Low viscosity adapter
Consists of a cylindrical chamber complete with spindle. Used to accurately obtain viscosity measurements, shear rate and shear stress of low viscosity materials from 1cP(mPa), such as biological fluids, chemicals etc.

High temperature low viscosity adapter

High temperature low viscosity adapter
Accurately obtains viscosity measurements, shear rate and shear stress from 1cP (mPa) up to temperatures of 200°C / 392°F. Ideal for hot resins, bitumens and hot oils.

Helical movement adapter

Helical movement adapter
Supplied complete with 6 T-shaped spindles, when attached to an Elcometer 2300, the measuring head moves smoothly up and down, allowing the spindle to cut into the material making a helical path through the sample. Ideal for use with creams, pastes, gels, epoxies etc.

Model	Description	Part Number		
		UK 240V	EUR 230V	US 110V
Elcometer 2300 RV1-L	Manually controlled rotational viscometer ideal for low to medium viscosity testing	K0UK2300M101	K0002300M101	K0US2300M101
Elcometer 2300 RV1-R	Manually controlled rotational viscometer ideal for medium to high viscosity testing	K0UK2300M102	K0002300M102	K0US2300M102
Elcometer 2300 RV2-L	PC controlled rotational viscometer ideal for low to medium viscosity testing	K0UK2300M201	K0002300M201	K0US2300M201
Elcometer 2300 RV2-R	PC controlled rotational viscometer ideal for medium to high viscosity testing	K0UK2300M202	K0002300M202	K0US2300M202
Accessories	Additional set of standard spindles L1 – L4 for use with Elcometer 2300 RV1-L and RV2-L	KT00230019698		
	Additional set of standard spindles R2 – R7 for use with Elcometer 2300 RV1-R and RV2-R	KT00230019699		
	Large spindle for low viscosity testing	KT00230019700		
	Adapter kit for small samples (small volume spindle set required)	KT00230019702		
	Adapter kit for small samples with integrated temperature sensor (small volume spindle set required)	KT00230019784		
	Spindle set includes TL5, TL6 and TL7	KT00230019703		
	Spindle set includes TR8, TR9, TR10 & TR11	KT00230019704		
	Adapter kit for low viscosity samples supplied complete with spindle	KT00230019710		
	Adapter kit for high temperature, low viscosity samples supplied complete with spindle	KT00230019711		
	Helical movement adapter complete with motor and 6 T-shaped spindles	KT00230019705	KT00230019706	KT00230019707

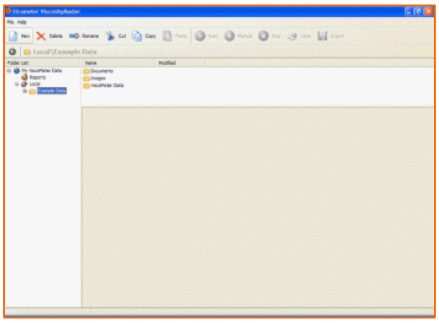
Elcometer 2300 ViscosityMaster™ Software

The ViscosityMaster™ software is the powerful yet easy to use software supplied with all Elcometer 2300 Rotational Viscometers.

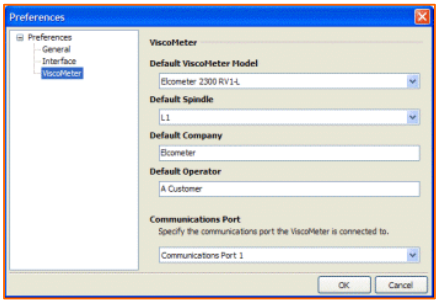
When used with the Elcometer 2300 RV1 viscometers, the software is used to transfer data from the viscometer to a PC.

When used with the Elcometer 2300 RV2 viscometers, the software allows bi-lateral transfer of data between the viscometer and PC allowing PC control of the viscometer. The PC can then be quickly set up with simple or advanced programs allowing for more complex tests, including:

- Multiple rotation speeds can be set up in one test program
- Rest periods – where the rotations are stopped for a user defined period

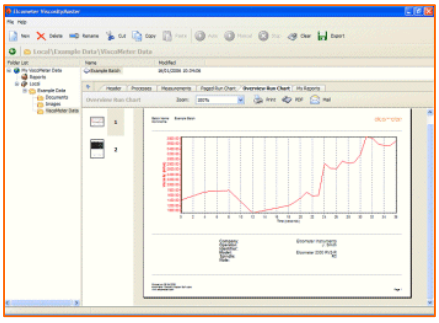


- ViscosityMaster™ has been specifically designed to maximise the versatility and usability of your viscometer and data can be stored along with associated photographs, test notes and any other test information.
- You can access all your associated files and folders, create new batches and reports and programme your viscometer.
- An example batch is pre-loaded into the software allowing you to discover all the features available.



- When using ViscosityMaster™ software, the Preferences window helps you to customise your working environment.
- Choose your unit of measurement, default values, spindle type, company name and operator.
- You can also specify the report page style and whether e-mail reports are formatted as PDF or JPEG files.

- There are two operating modes, manual and automatic. In manual mode, measurements are recorded as they are taken by the instrument, but the software does not control the viscometer.
- In PC controlled (automatic) mode, available only on RV2 model viscometers, measurements are recorded and the viscometer can be controlled by the software via the PC.
- In automatic mode, the viscometer is controlled using processes. Processes are groups of data which specify settings such as spindle speed, rotation, duration, measurement, frequency etc.
- A single batch can incorporate any number of processes required and are easy to set up using the Process Wizard.



- Whether you want to use the data collected for analysis or to create professional reports for distribution, ViscosityMaster™ with built in reporting templates and easy data, image and associated files access make managing data quick and easy.
- Custom reports are simply produced with report wizards and page designers. When complete, the report can be saved and exported as an Adobe PDF (Portable Document File) or a JPEG image and e-mailed as an attachment anywhere you require.

Related products

Dip & flow cups

Elcometer have a wide range of dip and flow cups. The Frikmar, Zahn, Lory and Shell cups are ideal for quick testing during manufacturing processes or in the workshop.
AFNOR, BS, DIN, FORD and ISO cups can be supplied separately or with an adjustable stand which includes a precision level and an overflow glass draw plate and are ideal for use in the laboratory.

Krebs viscometer

Elcometer 2200 Krebs viscometer is simple to use. The viscosity value of a fluid is automatically calculated from the power required to maintain the spindle at 200rpm. The easy read digital display shows the reading in Centipoise, Krebs Units or Grams

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