elcometer®
inspection equipment

Elcometer 2300
Rotational Viscometers

Elcometer 2300 Rotational Viscometers

Available in four versions with a choice of low to medium or medium to high viscosity ranges, either manually or PC controlled, the Elcometer 2300 range of rotational viscometers can be used to measure the viscosity of liquids in accordance with ISO 2555 and a number of ASTM standards.

STANDARDS:
AS/NZS 1580.214.5, ASTM D 1084-B, ASTM D 2196, BS 3900-A7-2, ISO 2555, ISO 2884-2

Low to medium or medium to high viscosity versions - manually or PC controlled via ViscosityMaster™

Clear, backlit LCD displays:

- Viscosity reading (cP or mPas)
- Spindle rotation speed
- % torque
- Sample temperature
- Auto range
- Shear rate & shear stress

Wide range of spindles for various viscosity and shear rate measurements

Automated Krebs test - set up and press 'Start'

Audible warning if viscosity reading exceeds the limits set by the user

Temperature probe supplied for increased accuracy of measurement

supplied with
ViscosityMaster™

Rotational Viscometers

Elcometer 2300

Technical Specification C

Model Elcometer 2300	RV1-L	RV2-L	RV1-R	RV2-R
Part Number	K2300M101	K2300M201	K2300M102	K2300M202
Measuring Range (mPas)	3 - 2,000,000	3 - 2,000,000	20 - 13,000,000	20 - 13,000,000
Spindles Supplied	L1 to L4	L1 to L4	R2 to R7	R2 to R7
Backlit LCD	■	■	■	■
Readings in cP and mPas	■	■	■	■
Low to Medium Viscosity	■	■		
Medium to High Viscosity			■	■
Sample Temperature Measurement	■	■	■	■
Manually Controlled	■	■	■	■
PC Controlled		■		■
Certificate	●	●	●	●
Measurement Accuracy & Repeatability	±1% of full scale	±0.2%		
Maximum Altitude above Sea Level	2000m (6562ft)			
Speeds (rpm)	0.3, 0.5, 0.6, 1, 1.5, 2, 2.5, 3, 4, 5, 6, 10, 12, 20, 30, 50, 60, 100, 200			
Accuracy (Speed)	<0.5% of the absolute value			
Sample Temperature Measurement Range†	-15°C to +180°C (5°F to 356°F)			
Sample Temperature Measurement Resolution†	0.1°C (0.18°F)			
Sample Temperature Measurement Accuracy†	±0.1°C (±0.18°F)			
Ingress Protection	Level 2			
Dimensions & Weight (including carry case)	495 x 420 x 200mm (19.5 x 16.5 x 8”), 9kg (20lb)			
Packing List	Elcometer 2300 Digital Rotational Viscometer, spindle set, 3 x mains lead (UK, EUR and US), hexagonal wrench, RS232 connection cable, ViscosityMaster™ Software‡, calibration certificate and operating instructions			

† Temperature measurement using PT100 Thermometer

‡ RV1 Models: For data transfer from Viscometer to PC only; RV2 Models: For bi-lateral data transfer between Viscometer and PC

ViscosityMaster™

Elcometer ViscosityMaster™ Software

ViscosityMaster™ is the powerful, yet easy to use software supplied with all Elcometer 2300 Rotational Viscometers. Specifically designed to maximise the versatility and usability of the viscometer, data can be stored along with associated images, test notes and all related test information.

ViscosityMaster™ makes it easy to collate and use the data recorded. Whether the data is required for analysis or to create professional reports for distribution to customers or colleagues, ViscosityMaster™ can deliver. With inbuilt report templates and easy access to all data, images and other associated files, ViscosityMaster™ makes managing data quick and easy.

● Calibration Certificate supplied as standard.

Elcometer 2300 Rotational Viscometers

Accessories

Spindles
Each Elcometer 2300 is supplied with a set of stainless steel spindles as standard, suitable for both Newtonian & non-Newtonian fluids.
Elcometer 2300 RV-L is supplied with spindles L1-L4 for low to medium viscosity testing.
Elcometer 2300 RV-R is supplied with spindles R2-R7 for medium to high viscosity testing.
A large R1 spindle (underlined) can be purchased separately.

Part Number	Description
KT00230019698	Spindle Set: Type L1 to L4 for Low to Medium Viscosity Testing
KT00230019699	Spindle Set: Type R2 to R7 for Medium to High Viscosity Testing
KT00230019700	R1 Spindle

Small Sample Adaptor
The small sample adaptor consists of a cylindrical sample chamber which can be used in conjunction with spindles TL & TR to accurately obtain viscosity measurements, shear rate and shear stress of sample volumes between 8 - 13ml (0.27 - 0.44fl.oz).

The TL spindles are for low to medium viscosity samples and TR spindles are for use with medium to high viscosity samples.

Part Number	Description
KT00230019702	Adaptor Kit for Small Volume Samples‡
KT00230019784	Adaptor Kit for Small Volume Samples & Integrated Temperature Sensor‡
KT00230019703	Small Volume Spindle Set: Type TL5 to TL7 for Low to Medium Viscosity Testing
KT00230019704	Small Volume Spindle Set: Type TR8 to TR11 for Medium to High Viscosity Testing

‡ Small volume spindle set required

Low Viscosity Adaptor
The low viscosity adaptor consists of a cylindrical sample chamber and is supplied complete with spindle. Used to accurately obtain viscosity measurements, shear rate and shear stress of low viscosity materials from 1cP (mPa), the stainless steel chamber can hold a sample volume from 16 - 18ml (0.54 - 0.61fl.oz).
Running temperature controlled water through the water jacket supplied keeps the sample at a constant specified temperature of between 0°C and 100°C (32°F and 212°F).

Part Number	Description
KT00230019710	Low Viscosity Adaptor Kit with Spindle

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Accessories

High Temperature Adaptor

Ideal for use with materials such as hot resins, bitumens and oils, the high temperature adaptor allows precise measurement of viscosity at high temperatures. It can accurately obtain viscosity measurements, shear rate and shear stress from 1-2100cP (mPa)‡ up to temperatures of 200°C (392°F).

The stainless steel chamber can hold a sample volume from 16 - 18ml (0.54 - 0.61fl.oz). Each adaptor is supplied complete with a spindle.

Part Number	Description
KT00230019711	High Temperature Adaptor Kit with Spindle

Helical Movement Adaptor

Some materials, such as creams, pastes and gels, do not flow easily, so standard spindles and testing methods cannot be used as they create a 'hole' in the material, generating invalid results. The helical movement adaptor moves smoothly up and down, automatically staying within pre-programmed limits, allowing the needle style spindle to cut into the material without making a 'hole' and making the measurement of viscosity possible.

The kit is supplied with the motor and 6 T-shaped spindles: PA, PB, PC, PD, PE, PF.

Part Number	Description
KT00230019705	Helical Movement Adaptor Kit with Spindle Set, UK 240V
KT00230019706	Helical Movement Adaptor Kit with Spindle Set, EUR 220V
KT00230019707	Helical Movement Adaptor Kit with Spindle Set, US 110V

Standard Calibration Oils

Silicone standard oils are used to check viscosity measurements. The values are given for 6 different temperatures between 20°C and 27°C (68°F and 80°F).

These oils are specifically manufactured for use with Elcometer 2300 Rotational Viscometers and values quoted are nominal at 25°C (77°F).

Part Number 500ml (1 pint)	Description	Centipoise (cP)	Certificate
KT009999N101	Rotational Viscosity Calibration Oil	300	●
KT009999N102	Rotational Viscosity Calibration Oil	700	●
KT009999N103	Rotational Viscosity Calibration Oil	1000	●
KT009999N104	Rotational Viscosity Calibration Oil	2500	●
KT009999N105	Rotational Viscosity Calibration Oil	4000	●

● Calibration Certificate supplied as standard.

‡ Based on Model RVR1-R & RV2-R.