

elcometer®
inspection equipment



Elcometer 2250
Krebs Viscometer

Viscosity - Rotational

Elcometer 2250

Krebs Viscometer

Featuring a unique automatic test mode, the Elcometer 2250 Krebs Viscometer measures the viscosity of paints, varnishes, adhesives, pastes and liquid inks at the touch of a button.

Fully automated Krebs test
- simply set up and press 'Start'

Choice of measurement:
Krebs Units (KU), Grams (g),
or Centipoise (cP)

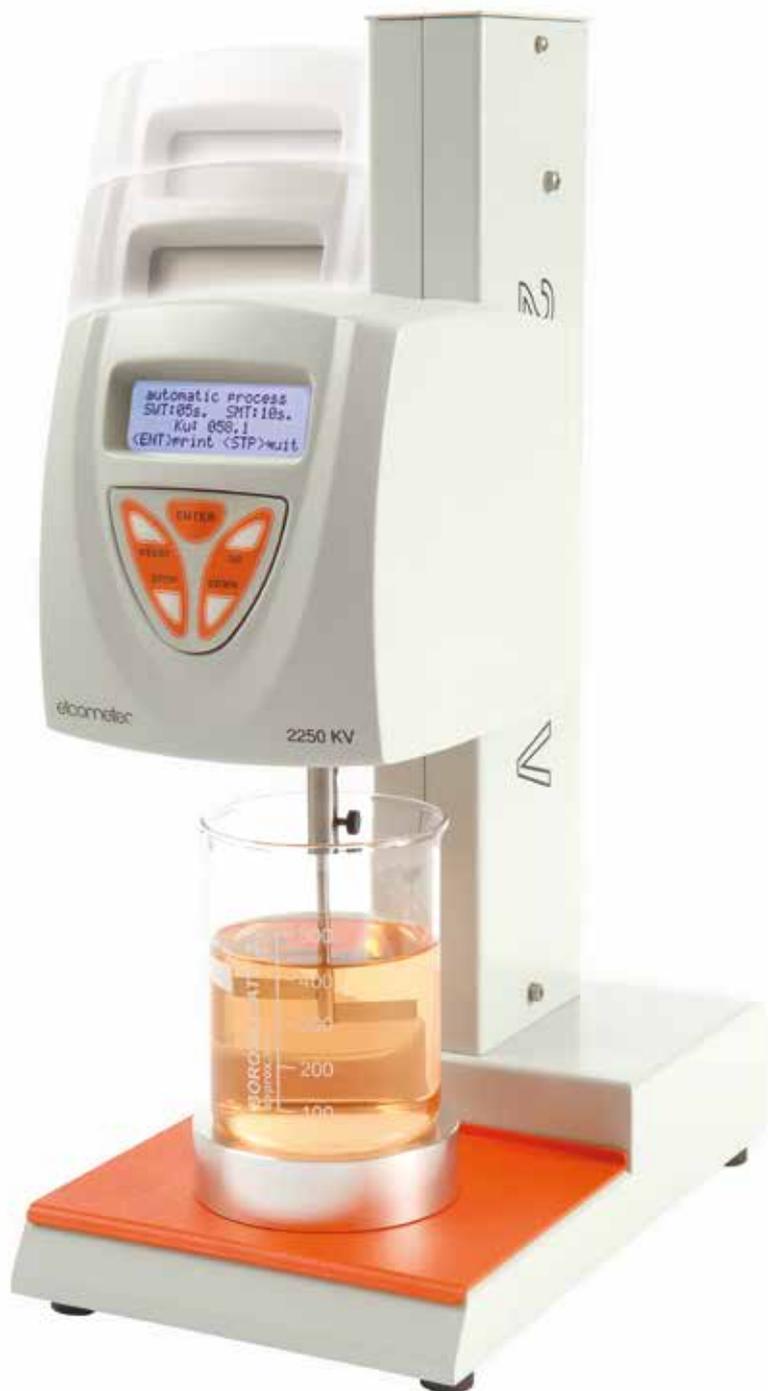
Designed for use with either a 600ml
beaker, 1 pint or ½ pint cans

Standard Krebs spindle with fixed
spindle speed of 200rpm

Can be used with non-standard
containers and sample volumes

User adjustable "Sample Waiting Time"
and "Measuring Time"

Date and time stamp for each
reading



Designed for use in accordance with National and International Standards - the Elcometer 2250 is ideal for both process control and quality assurance.

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STANDARDS:

AS/NZS 1580.214.1, ASTM D 562,
ASTM D 856, ASTM D 1084-C,
ASTM D 1131

The Elcometer 2250 offers users both an automatic or manual Krebs viscosity test. The unit has a fixed spindle speed of 200rpm and displays the viscosity value on screen in Krebs Units (KU), Grams (g) or Centipoise (cP).

The Elcometer 2250 has two operating modes; 'Automatic' and 'Manual'.



- Automatic Mode:**
 Automatic test - ensuring reliability and consistency of results - ideal for repeatable and reproducible testing.

 Once the sample beaker is positioned on the support, and the 'Start' button is pressed, the drive head automatically moves down until the spindle reaches the correct position within the sample.

 After a pause to let the sample settle, the Elcometer 2250 begins the test and displays the viscosity value. Once the test has been completed, the head automatically returns to the start position allowing the sample to be removed.
- Manual Mode:**
 The Elcometer 2250 can also be used manually - ideal for measuring non-standard sample sizes.

Measuring viscosity of non-Newtonian fluids

The viscosity of non-Newtonian fluids is dependent upon temperature, shear rate and time. There are several different categories of non-Newtonian fluids and depending on how viscosity changes with time, the flow behaviour is characterised as:

Thixotropic - time thinning, i.e. viscosity decreases with time. Thixotropics - are gel-like substances at rest but liquid when agitated, eg: non-drip paints, ketchup and varieties of honey.

Rheopectic - time thickening, i.e. where viscosity increases with duration of stress, eg: some lubricants. Rheopectic liquids are very rare. Some liquids show time thinning behaviour due to breakdown of the structure. This phenomenon is sometimes known as Rheoaiaxis.

Depending on how viscosity changes with shear rate, the flow behaviour is characterised as:

Pseudoplastics or shear thinning - where viscosity decreases with increased shear rate, eg: blood, gelatin and clay.

Dilatant or shear thickening - the viscosity increases with increased shear rate, eg: corn starch or concentrated sugar solution.

Plastic - exhibits a so-called yield value, i.e. a certain shear stress must be applied before a flow occurs.

Newtonian fluids, (such as water, paints, etc.), which continue to flow at a given temperature regardless of the forces acting on it are typically measured using viscosity flow and dip cups, see page 16-2.

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Technical Specification



Part Number	Description	Certificate	
K2250M001	Elcometer 2250 Krebs Viscometer	●	
Measurement Units	Krebs Units (KU)	Grams (g)	Centipoise (cP)
Range	40 KU to 141 KU	32g to 1099g	27 cP to 5274 cP
Resolution	0.1 KU	1g	5 cP
Measurement Accuracy	±1% of full scale		
Repeatability	±0.5%		
Speed (Accuracy)	200rpm (±1rpm)		
Operating Temperature	10°C to 40°C (50°F to 104°F)		
Maximum Altitude	2000m (6500ft) above sea level		
Dimensions	500 x 325 x 190mm (19.7 x 12.8 x 7.5")		
Weight	8.5kg (18.7lb)		
Packing List	Elcometer 2250 Krebs Viscometer, krebs spindle, large sample container support for 600ml glass beaker or 1 pint (USA) can, small sample container support for ½ pint (USA) can, sample container support locating plug, glass beaker 600ml (20.3fl.oz.), hexagonal wrench, 3 x mains lead (UK, EUR and US), calibration certificate and operating instructions		

Accessories

Part Number	Description
KT00225021791	Special Krebs Spindle
KT00225022906	Special Paste Spindle
KT00225021794	Sample Container Support for 600ml (20.3 fl.oz.) Glass Beaker or 1 pint (USA) Can
KT00225021795	Sample Container Support for ½ pint (USA) Can
KT00225021793	Sample Container Support Locating Plug
KT00225021796	Glass Beaker: 600ml (20.3 fl.oz.)

Krebs Viscosity Standard Calibration Oils



Part Number	Description	Krebs Units (KU)	Centipoise (cP)	Certificate
KT002250N001	Krebs Calibration Oil: S200	64	400	●
KT002250N002	Krebs Calibration Oil: N350	79	750	●
KT002250N003	Krebs Calibration Oil: N400	84	940	●
KT002250N004	Krebs Calibration Oil: S600	95	1400	●
KT002250N005	Krebs Calibration Oil: N1000	115	2600	●
Packing List	Supplied in 500ml (1 pint) bottles complete with calibration certificate and accurate to ±1% of the stated viscosity values			

● Calibration Certificate supplied as standard.