

# N $\mu$ Line<sup>®</sup>

Cone & Plate Viscometer

## TECHNICAL SPECIFICATIONS

The N $\mu$ Line Cone & Plate Viscometer is based upon the proven historical concept and long-established design of Research Equipment London's (REL) Analogue Viscometer which was used as the original instrument for the BS3900 standard.

The N $\mu$ Line<sup>®</sup> Cone & Plate Viscometer is a **self-calibrating, highly adaptable 'At-Line' instrument** designed to be a cost-effective and robust option between delicate laboratory instruments and the lower-end 'Go-No-Go' type viscosity measurement devices currently on the market.

Readings can be taken at variable shear rates, with **multiple speeds and at temperatures** between 10°C to 230°C.

**Operation is simple**, with easy-to-use navigation throughout the measurement process. The instrument is **easily cleaned**, and samples may be tested in **60 to 120 seconds**, depending upon the material.

N $\mu$ Line<sup>®</sup>'s stand-alone, 'At-Line' capabilities are enhanced by **new intuitive Windows-based software**, compatible with Windows 7 and higher, which takes on board many of the additional rheological features that customers have requested; while still maintaining the historical foundations of the original ICI Cone & Plate instruments, on which the N $\mu$ Line<sup>®</sup> Cone & Plate technology is based.

The **rugged design** ensures that it meets the high demands of modern manufacturing environments with both **reliability and performance standards**. With many new features, N $\mu$ Line<sup>®</sup> is designed to meet the diagnostic needs of the latest production standards.

With **process applications** in the paint, varnish, inks, resins, food, bitumen, oil, adhesives and pharmaceutical industries, to name but a few, the N $\mu$ Line<sup>®</sup> Cone & Plate Viscometer has been designed for these and a range of other manufacturing sectors.



## FEATURES

- The viscometer is pre-calibrated, certificated, and ready to use straight out of the box.
- NμLine can be calibrated to operate with multiple cone sizes in the same machine.
- Free cone of choice with all new machines, with easy self-calibrating routines for quick and easy set-up.
- Stored calibration data for all six cone sizes for easy change-over.
- Instrument range, plate temperatures, and viscosity reading with selectable units all software displayable.
- The PC Interface software allows users to analyse and record results and run shear rate or time sweeps.
- Variable speed settings: 5 RPM in integer increments up to 900RPM.
- Low-speed mode with speeds of 5-90 RPM in 0.1 RPM increments.
- Low-temperature Model REL0100: 10°C to 100°C variable temperature range with sub-ambient capabilities.
- High-temperature Model REL0230: ambient to 230°C variable temperature range (no cooling).
- Sample size typically 0.2ml.
- High accuracy—better than 1% of span using standard calibration oils.
- Manufactured in the United Kingdom to BS EN ISO2884-1:2006.

<b>SPEEDS</b>	Variable 5 to 900 rpm in integer steps or 5 to 90 RPM in 0.1 RPM steps (software selectable mode). Digital speed control typically better than 0.02 RPM
<b>CONE TYPES</b>	2 Poise, 5 Poise, 10 Poise, 20 Poise, 40 Poise, and 100 Poise
<b>TEMPERATURE RANGES</b>	10°C to 100°C or ambient to 230°C with variable temperatures, both ranges are available with variable temperatures having a resolution of 0.1°C and control typically +/- 0.1°C
<b>SELECTABLE UNITS</b>	°C or °F, rpm or sec <sup>-1</sup> , Poise or Pa.s.
<b>FEATURES</b>	Piezo Push-to-Read button unaffected by contaminants, standard push button as an option Integrated stick mouse for software control Precise beryllium-copper spring-based torque measurement Simple automated cone calibration using NIST standard oils Automated temperature calibration (additional equipment required)
<b>ACCURACY &amp; REPEATABILITY</b>	Better than 1% of span using standard calibration oils
<b>POWER</b>	85-240VAC 50/60 Hz single phase universal power, 150 watts
<b>WARM UP</b>	10 minutes from ambient
<b>DIGITAL DISPLAY</b>	4.3" colour LCD display
<b>PC INTERFACE &amp; FIRMWARE</b>	USB connection to external PC with free measurement Window-based software (in English). The instrument firmware is also upgradable via USB. Bilingual display. Multilingual firmware that can be customised by request.
<b>DIMENSIONS</b>	H = 510mm, W = 302mm, D = 302mm Weight: Low-temperature = 13.5kg, High-Temperature = 13kg



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