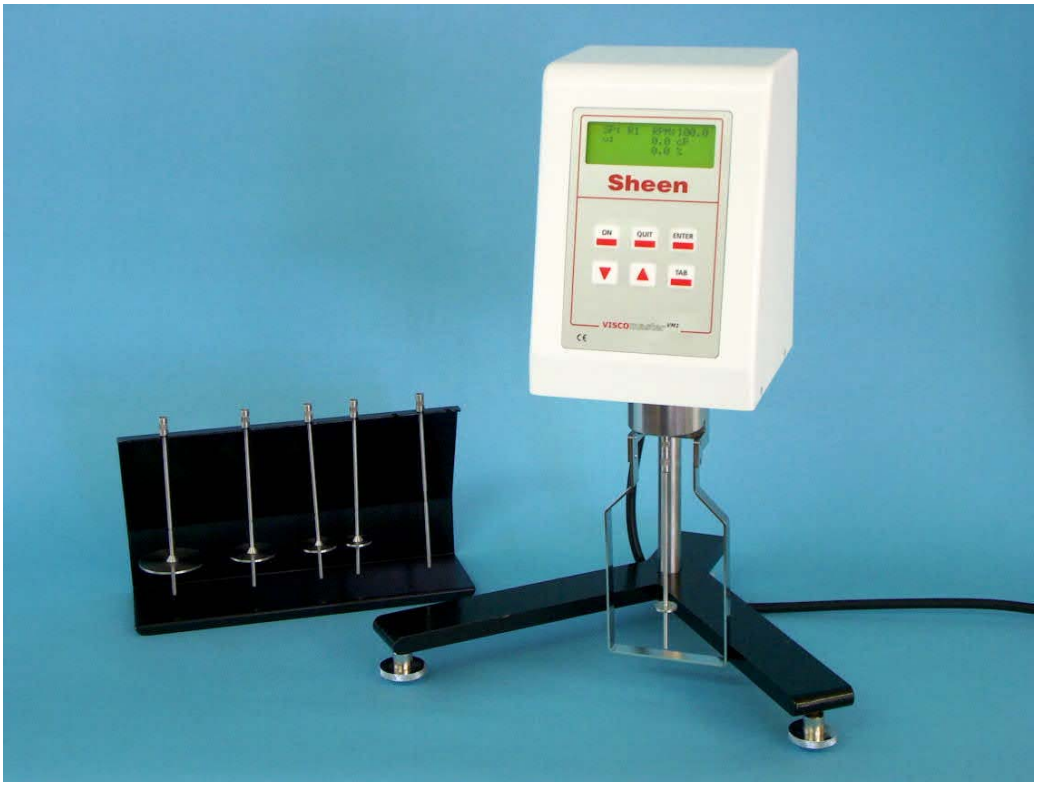
Sheen INSTRUMENTS

VISCOmaster

Refs: VM1 / VM2



INTRODUCTION

Viscomaster, the new rotational viscometer from Sheen Instruments, is the ideal solution for performing precise viscosity measurements quickly and efficiently. Its ease of use and versatility enable it to be used in many industrial applications where the determination of fluid properties and behaviour is essential. The principle of measurement is simple, but reliable, based on the well-established method of measuring the resistance of a spindle rotating in the sample under test. The resultant torque measurement, rotational speed and spindle properties are then combined to automatically calculate the resultant viscosity value.

FEATURES

- Fixed speeds from 0.3 to 200 rpm.
- Direct readout on clearly illuminated LCD displaying selected operating parameters.
- Progressive deceleration avoids excessive torque on spindle when stop is selected.
- Temperature reading with platinum probe.
- Audible alarm operates when working under 15% of full scale.
- Density input allowing kinematic viscosity determinations.
- Auto-range function.
- Storage of 10 user-defined test settings.
- 8 language options.
- Interface options / Datalogging software.

GLOBAL SOLUTIONS for QUALITY CONTROL

Simplicity itself ! -

The Viscomaster's easy to use keypad allows quick and easy setup of operating parameters:

Standard configurable parameters

	Viscomaster VM1	Viscomaster VM2
Speed Range	18 fixed 0.3 – 100 rpm	19 fixed 0.3 – 200 rpm
Spindles	R2 – R7	
Units	Pa.s / mPa.s or P / cP	
Language	8 available languages: English, French, German, Spanish, Portuguese, Italian, Japanese, Catalan .	

Clearly …… the best ! -

The illuminated 4 line display provides all the information that is required:

Standard displayed values

	Viscomaster VM1	Viscomaster VM2
Selected speed	✓	✓
Selected spindle	✓	✓
% torque	✓	✓
Viscosity (mPa.s or cP)	✓	✓
Temperature (°C or °F)		✓
User set density		✓
Kinematic viscosity *		✓
Shear rate **		✓
Shear stress **		✓

* Provided density value is entered
** Using Low Viscosity or Small Sample Adaptor

The Viscomaster VM2 provides accurate measurement of temperature (0°C to 100°C) through its in-built platinum PT100 probe.
The probe has been designed to allow easy removal for cleaning after the test has been performed.

OPTIONAL ACCESSORIES

SMALL SAMPLE ADAPTOR WITH FLOW JACKET

The small sample adaptor allows measurement of very small sample volumes, typically 8 to 13ml depending on the spindle used.
The measurement cylinder is rheologically corrected allowing extremely accurate viscosity, shear rate and shear stress determinations to be made, its stainless steel construction allowing removal and easy cleaning after tests have been performed.
Temperature may be controlled externally by the fitted flow jacket allowing variation between –10 to 100°C, an optional PT100 probe maybe used to accurately determine the sample temperature.
A version of the Small Sample Adaptor is available without temperature control having the same features as the above.

LOW VISCOSITY ADAPTOR WITH FLOW JACKET

The Low Viscosity Adaptor allows accurate and reproducible measurements of low viscosity samples from 1cP as well as shear rate and shear stress determinations. The stainless steel sample cylinder allows measurements of sample volumes typically between 16 to 18ml, depending on the spindle used, and is removable allowing easy cleaning after tests have been performed.
As with the SSA, temperature may be controlled externally by the fitted flow jacket allowing variation between –10 to 100°C, an optional PT100 probe maybe used to accurately determine the sample temperature.
A version of this is also available without temperature control (LVA).

HELICAL DRIVE UNIT

Materials which do not flow easily cannot be measured easily using standard methods and spindles, as the spindle forms a hole around it caused by cavitation.
When comparative measurements of the consistency or apparent viscosity of this type of material are required a different approach to testing is required.
The helical drive unit allows for this by smoothly moving the head of the instrument up and down between preset limits allowing the special T bar to cut into the material tracing a spiral path through the test sample during each rotation.
The typical measuring range is between 2,490 to 33,300,000 cP.

TECHNICAL SPECIFICATIONS

	Viscomaster VM1	Viscomaster VM2
Measuring range	100 to 13,000,000 cP	
Accuracy	± 1% of full scale	
Resolution	Viscosity < 10,000cP: 0.1	
	Viscosity >= 10,000cP: 1	
Repeatability	0.2%	
Temperature reading	None	0°C to 100°C
		(32°F to 212°F)
Resolution	n/a	0.1°C (0.1°F)
Accuracy	n/a	±0.25°C (±0.5°F)
Repeatability	n/a	±0.1°C (±0.2°F)
Memory	None	Storage of 10 user defined test settings
Interface	None	RS232, chart recorder
Voltage	100 – 240 VAC, 50/60 Hz	
Dimensions (L x W x H)	350 x 300 x 500 mm (13.8 x 11.8 x 19.7 in)	
Weight	10kg (22 lbs)	

Conforms to International Standards:- ASTM D789, ASTM D1824, ASTM D2196, ASTM D2393, ASTM D2669, ASTM D2983, ASTM D4878, ISO 1652, ISO 2555.

COMPLETE KIT INCLUDES:

Viscometer head and stand, standard 6 spindle set (R2 – R7) and spindle protector, protective carrying case.
Also datalogging software for Viscomaster VM2.

MAINTENANCE / CALIBRATION

Routine user calibration is possible using standard calibration oils however it is recommended that the Viscomaster be serviced and calibrated routinely by one of our approved service centres in order to ensure optimum performance.

ORDERING INFORMATION

Ref: VM1 Viscomaster VM1
Ref: VM2 Viscomaster VM2
Ref: VM2/1 Small Sample Adaptor with flow jacket (spindles not included)
Ref: VM2/2 Small Sample Adaptor without flow jacket (spindles not included)
Ref: VM2/3 Set of spindles TR8/9/10/11
Ref: VM2/4 Temperature probe for SSA / LVA
Ref: VM2/5 Low Viscosity adaptor with flow jacket (special spindle included)
Ref: VM2/6 Low Viscosity adaptor without flow jacket (special spindle included)
Ref: VM2/7 Helical Drive Unit (230V 50/60 Hz)
Ref: VM2/8 Helical Drive Unit (115V 50/60 Hz)

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