



### ROTATIONAL VISCOMETERS

# Smart series

Indispensable in QC and R&D laboratories.

**2 YEARS WARRANTY**

## Standard Delivery

Viscometer head with serial number / Stand, 3 levelling adjustment for stand / Boss head / Standard spindles / Spindle protector / Spindle rack / PT100 probe (optional) / Power supply cable / Datalogger software in a CD / USB cable / Carrying case / Calibration Certificate / Operating manual

**NOTE:** All parts (including the viscometer stand) find room in the Carrying case.

## Extra Accessories

APM (Small Sample Adapter) / LCP (Low Viscosity Adapters) / Haldal unit (High Viscosity Adapter) / Silicon Standard Oils / Thermostatic Bath / Universal adapter for all accessories such as Brookfield (Optional) / PPR Plugging System (Optional)

**NOTE:** The material of the accessories including the temperature probe can be changed under customer specification (High Temperature Resistance).

Alpha Series



Expert Series



Premium Series



**TOUCH KEYBOARD**  
Latest keyboarding technology, comfortable and easy to handle (6 keys)

**PROGRAM FEATURES**  
Time to Torque  
Time to Stop

**DATA DISPLAYED**  
Selected Speed  
Selected Spindle  
Viscosity readings (cP or mPa·s or cSt)  
Percentage of Full Scale Range (%)  
Sample Temperature (Optional, °C or °F)  
Shear rate (with coaxial spindles) (s<sup>-1</sup>)  
Shear Stress (with coaxial spindles) (N/m<sup>2</sup>)  
Density (introduced by the user)(g/cm<sup>3</sup>)

**TEMPERATURE READING BY PT100** (Optional)

**UNIVERSAL ADAPTER**  
All accessories such as Brookfield (Optional)

**GRAPHIC DISPLAY**  
Provides huge range of graphical options

**10 WORKING MEMORIES**  
Set up the unit and get it ready to be used every day choosing the memory you need

**VISCOSITY READINGS**  
Absolute viscosity (cP or mPa·s)  
Apparent Viscosity (cP or mPa·s)  
Kinematic viscosity (cSt, mm<sup>2</sup>/sec)  
(Density introduced by the user)

**USB INTERFACE**  
Faster transfer data to the computer

**DATALOGGER SOFTWARE INCLUDED**  
USB allows data transfer to a Excel format



## Main Features

- > Touch key board 6 keys.
- > Direct readout on a graphic display.
- > Data displayed:
 

Selected speed	r.p.m.
Selected spindle	SP
Viscosity reading	cP (mPa.s) or cSt
Percentage of full scale	%
Sample temperature	°C or °F (Optional)
Shear Rate (with coaxial spindles)	SR (s-1)
Shear Stress (with coaxial spindles)	SS (N/m2)
Density (introduced by the user)	g/cm3
- > Viscosity reading: dynamic viscosity (cP or mPa.s) or kinematics viscosity (cSt).
- > Unit converter SI to CGS.
- > Program features:
  - Time to torque: target torque pre-setting device.
  - Time to stop: target time pre-setting device.
  - 10 working memories.
- > AUTO-TEST with sound and visual malfunction alarm.
- > AUTO-RANGE function.
- > Temperature reading by PT100 (optional).
- > User-enabled viscosity and temperature (optional) calibration.
- > 10 language options.
- > Interface: USB.
- > Datalogger Software: USB allows data transfer to a PC Excel format.

Standard delivery: The equipment is supplied complete with standard spindles (4 spindles for L model, and 6 spindles for R and H models), viscometer stand and spindle protector, carrying case, USB cable and Datalogger Software.

Code	Model	Measuring Range (cP)	Speed (r.p.m.)	Number of speeds
V200003	SMART L	20 - 2.000.000	0.3 - 100	18
V200002	SMART R	100 - 13.000.000	0.3 - 100	18
V200001	SMART H	200 - 106.000.000	0.3 - 100	18

## Technical File

- > Precision:  $\pm 1\%$  of full scale
  - > Resolution:
    - With low viscosity adapter: 0.01
    - For lower than 10.000 viscosity cP: 0.1
    - For viscosity equal to or above 10.000 cP: 1
  - > Repeatability: 0.2%
  - > Thermometer features:
    - Temperature margins: 0°C to +100°C
    - 32°F to 212.0 °F
- Resolution: 0.1°C / 0.1722 °F  
 Precision: +/- 0.1 °C  
 Type of probe: PT100  
 > Supplied at 100-240 VAC, 50/60 Hz

## Spindles

AISI 316 stainless steel spindles, easily identified by number and letter when changed according to range of viscosity.

These are the standards our units follow:

- BS: 6075, 5350
- ISO: 2555, 1652
- ASTM: 115, 789, 1076, 1084, 1286, 1417, 1439, 1638, 1824, 2196, 2336, 2364, 2393, 2556, 2669, 2849, 2983, 2994, 3232, 3236, 3716



Rear view to the viscometer showing the new USB interface that provides a faster transfer of data to the computer.



Easy identification, on your first look at the equipment, you identify it.



Front view of the viscometer, touch keyboard with 6 keys and graphic display.

DATALOGGER downloaded data		
Visco Serial Number:	PREL40009	
Spindle:	L2	
Date:	2016/2010	
Inf acquisition time:	17:43:11	
End acquisition time:	17:44:05	
Time increment between measurements:	00:00:01	
Density:	1.000000	
RPM:	50.000000	
Viscosity units:	centiPoise	
Temperature units:	°C	
Density units:	g/cm3	
Viscosity	% EOS	Temperature
457 902527	76 3333664	NO PROBE
455 417084	77 5983672	NO PROBE
456 96521	77 8441391	23 0245705
455 95571	77 8441391	23 0245705

## DATALOGGER SOFTWARE

Let the viscometer gather measurement data and store them in its internal memory (set these options when configuring a measurement with the keypad). More than 10,000 data points can thus be stored inside the viscometer. Then use this software to export the stored data as Microsoft EXCEL format. (No computer skills needed).