

 **Attension** | **Sigma**

Complete Range of Force Tensiometers



Versatility, automation and accuracy

## Sigma 703D - Manual

Sigma 703D is an accurate manual standalone force tensiometer for quality control and research. Robust and convenient, it's the optimal tool for simple surface tension and interfacial tension measurements.

### Accurate measurements of

- Surface tension
- Interfacial tension
- Critical micelle concentration (CMC) (manual)
- Density

### No need for external PC

Standalone system operated by the keyboard at the instrument – shows the results instantly on a large integrated digital screen. Results can be printed or imported to PC if desired.

### Ease of use

Simple open design and easy-to-use user interface, guarantees that the instrument is quick to learn and easy to operate.



SIGMA 703D

## Sigma accessories

Attention Sigmas can be complemented with a range of accessories to accommodate a number of applications.

### Probes and related tools

Such as Platinum Du Noüy ring, Platinum Wilhelmy Plate, Platinum rod (for low volume samples), Powder Wettability containers, Adhesion Force probe, Density probe, Sedimentation probe, calibration tools and ring re-form tool make sure you can utilize your instrument to the maximum. Temperature and pH probes are also available as well as sample holders.

### Temperature control vessels

For temperature control of the liquid sample are available from -20°C up to 200°C. A gas phase temperature controller can also be used for regulation of the air temperature during measurement.

### CMC dispensers

For fully automated critical micelle concentration measurements with Sigma 700/701.

### Active vibration isolation system and cabinet

To eliminate disturbing vibrations and air currents to maximize the precision of the measurements.

For a complete accessory description, please visit [www.biolinscientific.com/product/sigma-700-701](http://www.biolinscientific.com/product/sigma-700-701).



## OneAttension software

OneAttension software combines the most intuitive user interface with a high level of functionality. Some of its main features includes:

### Best-in-class user interface

The most intuitive user interface is the key for OneAttension. The software is easy to learn, and the logical interface allows even complex measurements to be performed with ease.

### Live analysis

The results are shown real-time during the measurement. You can conveniently monitor your results without the need to switch between measurement and analysis tabs.

### Full automation

OneAttension supports fully automatic measurements. Powerful recipe manager makes measurement setting convenient and simple.

### Flexibility for every need

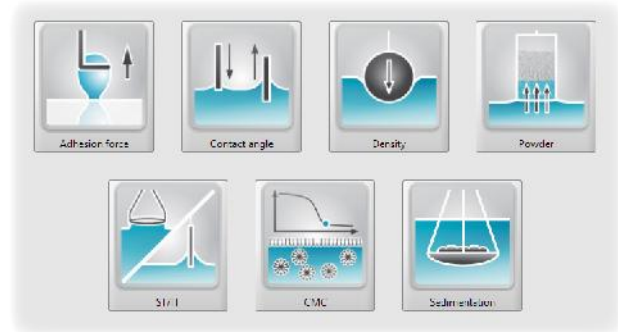
OneAttension has been designed to meet the requirements of almost any applications you may have. You can easily adjust measurement parameters to match your specific application needs.

### Data handling and exporting made simple

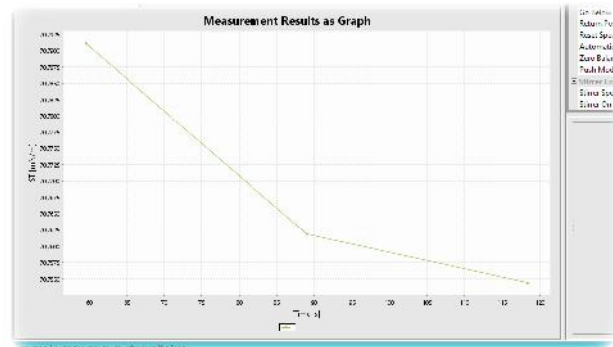
Data analysis, plotting, and statistical analysis can all be done with a few clicks to give you accurate results within seconds. All data can easily be exported further to Excel, for example.

### Optimal for industrial use

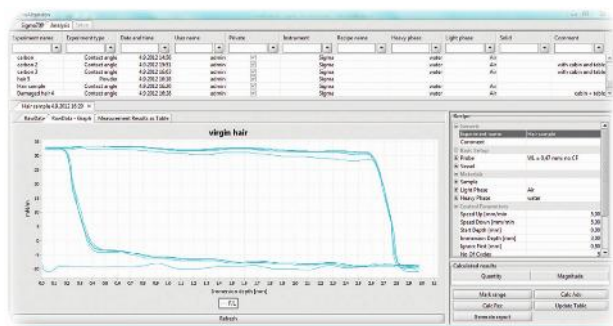
Measurement reports can be created with a few clicks and the user manager conveniently handles all different users – with desired privacy levels.



Intuitive user interface



Live results



Data handling made simple

## [ SPECIFICATIONS ]

Available Measurements					
	SIGMA 700	SIGMA 701	SIGMA 702	SIGMA 702ET	SIGMA 703D
Surface tension	•	•	•	•	•
Interfacial tension	•	•	•	•	•
Critical micelle concentration	automatic	automatic	manual	manual	manual
Dynamic contact angle	•	•	–	–	–
Surface free energy	•	•	–	–	–
Powder wettability	•	•	–	–	–
Density	•	•	•	•	•
Sedimentation	•	•	–	–	–
Adhesion force	•	•	–	–	–

Balance Specifications					
Measuring range (mN/m)	1...2000	1...1000	1...1000	1...1000	1...1000
Displayed resolution (mN/m)	0.001	0.001	0.01	0.01	0.01
Density range (g/cm <sup>3</sup> )	0...2.2	0...2.2	0...2.2	0...2.2	0...2.2
Density resolution (g/cm <sup>3</sup> )	0.0001	0.0001	0.0001	0.0001	0.0001
Maximum load (g)	210	5	5	5	5
Weighing resolution (mg)	0.01	0.005	0.01	0.01	0.01
Force resolution (µN)	0.1	0.05	0.1	0.1	0.1
Contact angle range	0...180°	0...180°	-	-	-
Contact angle resolution	0.01°	0.01°	-	-	-
Calibration & locking	automatic	manual	manual	manual	manual

Measuring Unit Specifications					
Sample stage	motorized	motorized	motorized	motorized	motorized
Sample stage speed (mm/min)	0.01...500	0.01...500	0.01...500	0.01...500	-
Stage movement range (mm)	0...75	0...75	0...75	0...75	-
Stage positioning resolution (µm)	0.016	0.016	0.26	0.26	-
Dimensions (cm)	L 33.3 * W 24.4 * H 62	L 33.3 * W 24.4 * H 62	L 33.3 * W 24.4 * H 62	L 33.3 * W 24.4 * H 62	L 27.5 * H 15.5 * H 39.2
Weight (kg)	16	13	11	11	5
Power supply (vac)	85...264	85...264	85...264	85...264	100...240
Power consumption (W)	13	13	13	13	7
Frequency (Hz)	47...440	47...440	47...440	47...440	50...60

Common Accessories					
Temperature control mechanism	Range of water bath accessories	Range of water bath accessories	Built-in thermostatic vessel for water bath	Thermostatic vessel for water bath	Range of water bath accessories
Temperature control range (°C)	-20...+200	-20...+200	-20...+200	-20...+200	-20...+200
Stirrer	•	•	-	-	-

Software					
	OneAttention	OneAttention	Data receiver	Data receiver	Data receiver

System requirements	
Recommended system requirements	1 GHZ processor, 1 GB RAM, 40 GB hard disk drive (20 GB free), 1 USB port Accessories such as water bath and liquid dispenser may require a free RS-232 port
Operating system requirements	Windows 7 & 8 (32 or 64 bit), Windows Vista (32 bit)

All specifications are subject to change without notice.

• : available – : not available/not applicable



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