

# ramé-hart Model 590

**ramé-hart Advanced Automated Goniometer / Tensiometer with Automated Tilt, Dispensing and DROPimage Advanced**

## ramé-hart Model 590 (p/n 590-F4)

Model 590 represents the most advanced and automated tool available for measuring static and dynamic contact angle, advancing and receding contact angle, surface energy, and surface and interfacial tension. Model 590 accepts every available modular accessory and includes our award-winning DROPimage Advanced software for complete methods-based interfacial analysis. The system ships complete with the fully software-controlled Automated Tilting Base Assembly (p/n 100-25-A) as well as the Automated Dispensing System (p/n 100-22).

**What's in the box:** Advanced Goniometer with high-speed F4 Series Camera, Automated Tilting Base, Automated Dispensing System, Microsyringe Fixture and Shade, Illuminator and Fiber Optic Bundle, (1) Microsyringe Assembly, (1) 22g Straight Needle, PC with FireWire Interface and LCD, DROPimage Advanced Software, User Manual, Calibration Tool, and Storage Cover — everything needed to get started on just

## Specifications\*\*

<b>Stage Size</b>	2 x 3 in (51 x 76mm)
<b>Sample Size</b>	up to 12 in (300mm) x unlimited*
<b>Contact Angle Range</b>	0 to 180°
<b>Resolution</b>	0.01°
<b>Accuracy</b>	+/- 0.10°
<b>Camera</b>	IEEE1394a FireWire, 1/3" CCD, 400Mbps, 70fps, Progressive Scan
<b>Backlighting</b>	Variable Fiber Optic Illuminator
<b>Stage</b>	Precision 3-Axis
<b>Dimensions</b>	19 x 20 x 10 in (480x500x250mm)
<b>Weight</b>	20 lbs / 9.1 kg (excluding power)
<b>Power Supply</b>	110 or 220 VAC
<b>DROPimage Features</b>	Contact Angle Measurement (7) Surface Energy Tools Methods-based, Surface and Interfacial Tension, Advancing and Receding Contact Angles

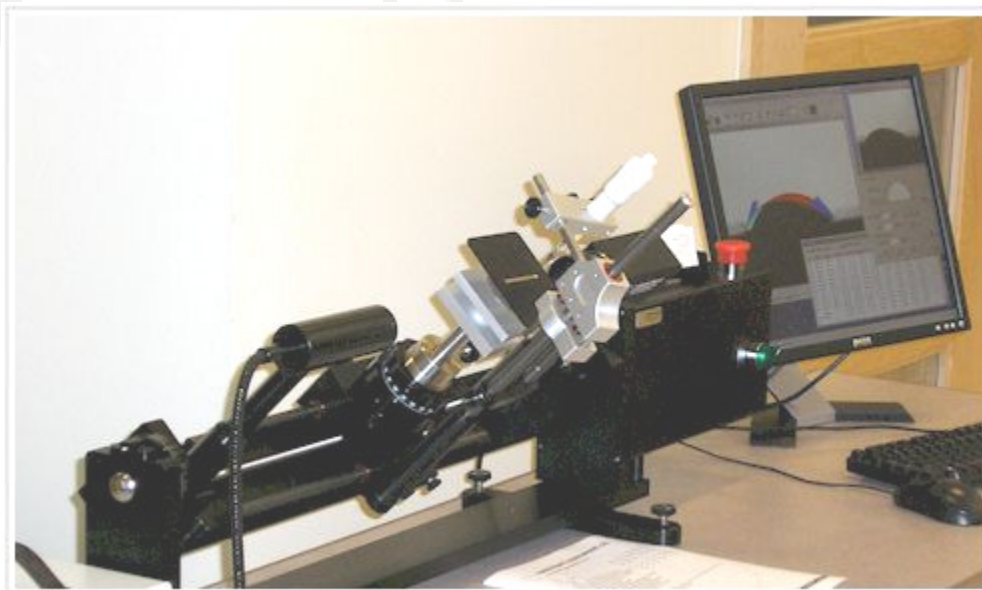
## Options

Environmental Chamber 100-07  
Advanced Chamber 100-26-TH  
Elevated Temp Syringe 100-11  
Wafer 100-21-x  
Vacuum Chuck 100-21-VCx  
Environmental Fixture 100-07-60  
Film Clamps 100-15  
*Contact us for a complete list of available options.*

**Custom options available.**

\*requires custom optics and substrate support options for larger samples.

\*\*Please refer to product literature for the Automated Tilting Base and Automated Dispensing System for additional product specifications.



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$$\sigma = F(d_s/d_c) d_c^2 g (\rho_1 - \rho_2)$$

