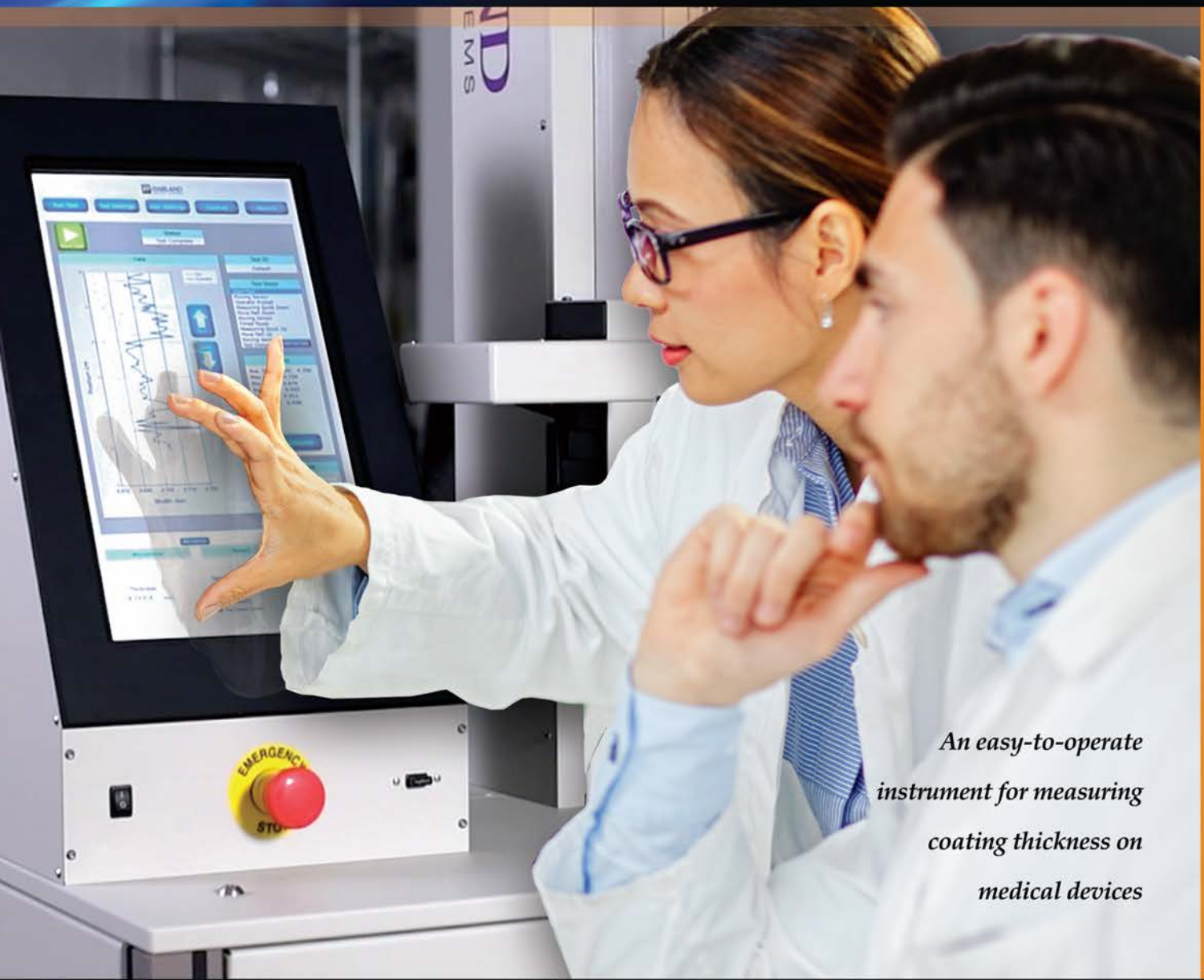
HARLAND
MEDICAL SYSTEMS

CTS1000

Coating Thickness Test System

MACHINES

ON THE SURFACE
We touch life first



An easy-to-operate instrument for measuring coating thickness on medical devices

CTS1000
Coating Thickness Test System

The CTS1000 provides accurate coating thickness measurements on medical devices with the push of a button

MACHINES

Harland automated product platforms designed specifically to apply and test performance materials for your products.

Parts can be scanned over a single point or over a programmed length

Dry and hydrated measurements display side-by-side in real time

Features:

- High-precision optical micrometer
- Low-vibration vertical motion column
- Multiple scanning modes
- Flexible programmability
- Program, save, and export test setups and reports
- Table-top or cart-mounted versions
- Easy to read touch-screen display
- Measures dry or hydrated devices
- Real-time read out
- Multiple user permissions
- Barcode reader option

Coating thickness and its effect on overall part diameter is a critical variable in the design of today's catheter and guidewire designs. Complex devices packed into small packages require close attention to tolerances and clearance. Newer therapy areas such as neurovascular demand ultra-thin devices which also underscore the importance of coating thickness and overall device diameter.

The CTS1000 Coating Thickness Test System is a compact, easily programmable instrument that quickly and accurately determine the thickness of hydrophilic and other coatings by precisely measuring the diameter of a coated sample. Diameter is measured with an optical micrometer which can scan a device either dry or while hydrated. Because most hydrogel-based low friction coatings swell when hydrated, the coating thickness can then easily be calculated.

How it works:

Simply insert your sample (up to 70 cm long) into the attachment fixture. Select a saved test protocol or create a new one with Harland's intuitive TestingWorks 2.0 software. Let the CTS1000 do the rest. With the micrometer sensor in the "dry" position, the test sample is lowered past the sensor with diameter readings taken as it moves.

At the end of this motion, the sample is completely immersed in a water bath. Then the sensor moves so it is measuring the hydrated sample diameter beneath the water bath surface. As the sample returns up to its original starting position, diameter readings are again taken. The graphical display shows the dry and hydrated scans side-by-side and the calculated coating thickness throughout the process in real time.

A test instrument dedicated to measuring the coating thickness properties of medical devices

Accommodates parts from 0.3 mm - 20 mm in diameter, with lengths up to 70 cm

THE 4M FRAMEWORK™

Harland manages all of these elements as an integrated program to provide you with a complete surface enhancement solution tailored to precisely meet your particular technical, functional and economic requirements.

MATERIALS – **proprietary chemistries that enable advanced surface enhancement on your medical devices, healthcare disposables or life science products.** Harland provides unique, world class chemistry platforms for solving customer surface enhancement challenges.

METHODS – **processes and protocols to effectively and efficiently apply and cure surface enhancing materials.** Harland creates and validates robust methods that optimize the integration of Materials and Machines to meet your product's requirements.

MACHINES – **automated systems designed specifically to apply and test advanced Materials on your device.** Engineered to meet your technical, commercial and operating requirements including throughput and total cost of ownership.

MANUFACTURING – **with either Harland Contract Coating Services or customer- owned coating operations.** Harland is uniquely positioned to offer a full spectrum of surface enhancement manufacturing options based on your manufacturing strategy and volume requirements.

Multiple scanning modes:

The CTS1000 offers multiple scanning modes, allowing users to select the mode that best suits their needs. Measurements can be recorded at select points on the test sample or the CTS1000 can scan an entire programmed length.

Measure dry or hydrated:

The CTS1000 can measure diameter dry, hydrated, or both consecutively. Parts are loaded onto a vertical motion arm and a guide on the lower end keeps samples aligned during testing. A specifically designed window allows the micrometer to measure sample diameter while immersed.

Specifications: CTS1000 Coating Thickness Test System

Weight:	*Tabletop version:* 127 lb. *Cart version:* 309 lb.
Height:	42.25"
Depth:	19"
Width:	30"
Sample Rate:	0.1 mm/sample, to 1 cm/sample 1-100 samples/cm
Measurement Accuracy:	*Part diameter ≤ 10 mm* +/- 2 µm *Part diameter > 10 mm* +/- 5 µm
Maximum loaded part length:	*Tabletop version:* 45 cm *Cart version:* 70 cm
Maximum measurable part length:	*Tabletop version:* 30 cm *Cart version:* 60 cm
Part diameter allowances:	0.3 mm - 20 mm
Data transfer ports:	USB x1, Ethernet x1
Display:	11" x 19", 1080p (1080x1920, 9:16 aspect ratio
Power requirements:	120/240 Volt A/C
Chassis material:	Powder coated steel

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7418 Washington Avenue South
Eden Prairie, Minnesota 55344
USA • 952.941.0475

www.harlandmedical.com