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Model CX-1025 Film Thickness Gauge

The Model CX-1025 is a dual-sensor film thickness gauge – it has a single high-resolution, capacitance sensor, plus a single precision contact probe. The patented capacitance sensor resolves to 0.001 mil, and provides continuous, end-to-end non-contact sample measurement of film thickness information. The precision contact probe resolves to 0.01 mil, is accurate to 0.01 mil, and provides point-to-point contact sample measurement of film thickness information.

The contact probe can be run in two Modes of Operation on the Model CX-1025: AutoCal™ Mode and Contact Profiling Mode.

In AutoCal™ Mode, the contact probe is software programmed to take one (or up to 5) readings at the beginning section of the film sample, automatically advance those same measurement locations to the capacitance sensor, automatically calibrate the capacitance sensor based on those contact measurements, then automatically start the sample drive to pull the film sample through the capacitance sensor for continuous thickness profile data collection.

In Contact Profiling Mode, the contact probe is software programmed to take point-to-point thickness readings on the film sample. In this mode, the capacitance sensor is inactive and is not taking thickness readings. The film drive starts, pulls the sample to the first measurement location, the drive stops, the contact probe takes the first reading and retracts, and the drive starts to advance the sample to the next measurement location, continuing this process across the entire film sample length. Distance between data points, drive speed, and contact dwell time are all software programmable.

The Contact Probe stand section of the gauge replaces the Guide Plates on the CX-1000 Model to give you the upgrade to the CX-1025 Model. The CX-1025 contact probe Stand can be provided in either of two versions: a proprietary floating, automatic parallelism adjusting, anvil section or a fixed, button-style, parallelism-adjustable anvil section to provide optimum accuracy and repeatability of your contact thickness measurements. Parallelism adjustments on the fixed parallelism-adjustable anvil version are performed by adjusting (3) set-screws on the button anvil, until a parallelism specification of 20-30 millionths is reached.

The Floating Anvil contact probe stand automatically eliminates parallelism error between the contact point and the anvil by self-aligning the point and anvil surfaces during contact and during measurement. However, please note that this Option is effective only for non-sticky and non-tacky film types in low to mid-range thicknesses. Please consult the Oakland factory for assistance when selecting this Option.

Calibration of the capacitance sensor is performed automatically by the contact probe, therefore, there is no need to create calibration standards from film samples. Your

recipe setup information, which includes the AutoCal™ Mode setup, can be stored in the CX-1200 software for later recall and future sample runs of the same material.

Since the AutoCal™ proprietary contact probe uses a direct thickness measurement technique, you do not need to create a separate calibration value or recipe to store in the system memory for each different film formulation; instead you can use a single recipe for operation on all films. Once your recipe is created, you now have a convenient, easy-to-use system for measuring gauge and gauge variation of your range of film samples.

After recalling your stored recipe, place the film sample to be measured through the Guide Plates on the Contact Probe Stand, under the left-hand Idler, underneath the Capacitance Sensor, under the right-hand Idler, and finally, between the Drive Rollers. Start the drive mechanism to begin self-calibration and data collection. Stop the drive mechanism at the end of the sample to stop data collection.

The CX-1025 gauging system can be operated only with our Model CX-1200 Quality Control Software. Your CX-1200 Quality Control Software allows you to display Linear Profiles, Polar Profiles, Statistics Summaries, Multiple Sample Statistics, and Fourier Analysis graphs. The CX-1200 Software also allows you to Export data to any ASCII-format software including Microsoft Excel, Minitab, Zontec Synergy, Hertzler Systems, and WinSPC.