

THIN FILM MEASUREMENT EQUIPMENT



Dektak Surface Profile Measurement System

The Sloan Dektak is a compact, highly sensitive instrument used for the precise measurement of very small vertical dimensions. It has found wide application in the measurement of thin films from 25 to 1,000,000 angstroms in thickness.

The Dektak is most frequently used for the determination of the surface profiles of evaporated, sputtered, or chemically deposited thin films, the profiles of etched oxide patterns and photoresist masks, and the surface characteristics of substrates before deposition.

The Dektak measures a surface profile by scanning the sample with a diamond stylus at approximately 15 milligrams tracking force. A microscope with integral illumination enables the operator to view the scan area. Three scanning speeds are available in addition to manual rapid forward and reverse. Vertical scan magnification can be selected from seven levels ranging from 1,000X to 1,000,000X. An optional range doubler is available.

The instrument is compact, rugged, and simple to operate. It is fully portable, requiring only conventional AC main power, and is able to function in a normal industrial environment with no special facilities.

The Dektak measurements are recorded on a Sloan three-speed chart recorder. In conjunction with the available Dektak scan speeds, the recorder is capable of displaying nine horizontal magnifications ranging from 2X to 5,000X.

SPECIFICATIONS

Dektak®

Measurement Ranges

Vertical magnifications 1,000X to 1,000,000X
in 7 steps (1,000,000
to 1,000 Å full scale)

Horizontal magnifications .. 2X to 5,000X in 9 steps

Minimum Detectable Step 25 angstroms

Accuracy ±2%

Scan Speeds 0.01, 0.1, and 1 cm/minute

Stylus Spherical diamond, 0.001" dia.
standard; 0.0002" dia. optionally available.

Sample Stage 4 x 4 inches; optional rotary stage
permitting 270° rotation of sample.

Maximum Sample Thickness 1 inch

Power Required 120 vac, 50/60 Hz, 1 ampere

Recorder

Sensitivity 100 mv full scale

Chart Speeds 2, 10, 50 cm/minute

Chart Size 12 cm wide

Power Required 120 vac, 50/60 Hz

