

RESOURCES

A summary of new products and services
for materials research...

Grazing Reflection Metrology Tool:

The X-Caliber from AXIC can be used to measure film or substrate density, linear thin-film thickness, and surface and interfacial microroughness. Standardless measurements are provided in 10 s to facilitate multipoint mapping. The noncontact, nondestructive tool is suitable for single-layer and multilayer metal films and dielectrics such as Ti/TiN, tantalum pentoxide, and barium strontium titanate. Density and surface micro-roughness measurements can be made on bulk materials such as silicon or gallium arsenide wafers.

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Hydrogen Gas Generator: Balston's Model 75-36 hydrogen gas generator continually produces 550 cc/min of 99.99999% pure hydrogen gas at regulated pressures of 0-60 psig, eliminating the need to interrupt analysis to change tanks. The generator produces hydrogen gas through the electrolytic dissociation of water. The resultant hydrogen stream passes through a palladium membrane through which only hydrogen and its isotopes can penetrate. This technology produces hydrogen at a purity two orders of magnitude greater than other technologies.

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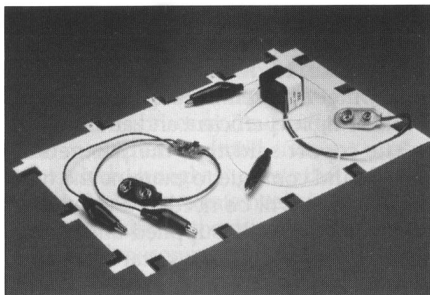
Paddle and Basket Adjustment Devices:

DISTEK's Height-Check™ allows users to check the height of the paddle or basket during dissolution testing. This gauge also can be used to verify the height of each stirring element. Measurements of deviation from setpoint are within 0.5 mm. DISTEK's Center-Check™ allows users of dissolution test baths to set and verify paddle or basket shaft centering in the vessel, close to dosage form. Spring-loaded arms facilitate attachment and removal of the device from each shaft.

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Vacuum Products: Varian's 600-page catalog features products designed to produce, characterize, and deliver high and ultrahigh vacuum environments. Included are sections with general, application, and technical information about primary, diffusion, ion, and turbomolecular pumps; leak detectors; turbopumping systems; instruments such as gauge controllers and transducers; components such as valves, flanges, fittings, and feedthroughs; and customized products.

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Electroluminescence Backlighting Panel:

The Proto-Kut™ from Edmund Scientific was developed for prototyping and low-volume requirements. The panel is easily shaped using scissors, and up to 14 different lamps can be cut from one panel. The Proto-Kut panel includes one low-voltage lamp powered by an IC inverter with two AAA cells, plus one high-voltage lamp powered by either of two magnetic resonating transformer-type inverters requiring 9-V input. The different transformer types are optimized to power different-size lighted areas.

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Large-Slide Coating Device: The Dip-Miser II from Electron Microscopy Sciences allows for coating of 2 × 3-in. (~5-8-cm) slides and requires only 30 ml of emulsion. The glass self-standing unit is stable when immersed in a water bath and on the darkroom table. A water jacket allows users to control the temperature of the emulsion during slide coating. The design eliminates the need for a water bath or other external means of temperature control during slide coating.

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Low-k Dielectric Materials: Allied-Signal's Advanced Microelectronic Materials offers FLARE™ 2.0 low-k dielectric materials solutions targeting sub-0.18- μ m semiconductor manufacturing. When exposed to 385-450°C, FLARE exhibits no increase in dielectric constant. A glass transition temperature of >400°C provides a large processing window, and thermal stability to 425-450°C results in stable film.

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Short Arc Power System: Chiu Technical's Mercury 100W UL-recognized short arc system features 120 VAC 60 Hz input. The system features automatic ignition, hour meters, constant lamp power, and low ripple. The low-frequency, low-noise single-switch system has balancing circuits to compensate for lamp voltage

changes. An integral design safety feature prevents the system from turning on if the lamp housing is disconnected. Applications include microphotography, fluorescence, and spectrophotometry.

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IR Temperature Sensing Book:

Mikron Instruments offers a 250-page compilation of data and diagrams to assist in selecting the optimum IR temperature sensor, thermal imaging system, or blackbody calibration source. The book covers portable IR thermometers, process IR temperature sensors and systems including fiber optic units, a series of IR thermal imaging systems, and blackbody thermal reference calibration sources. Also included are more than 50 pages of technical data on IR temperature sensing.

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X-Ray Metrology Tools: Veeco Instruments' System XR allows users to measure thickness and composition of multiple layers. Up to three layers of plated, electroless, chemically deposited, or sputtered depositions can be characterized at one time with a small beam (1 mil, 25 μ m). Automatic application recognition sets up the system without operator intervention. Automated measurements are facilitated with Veeco's servo-driven laser-assisted point-and-shoot XYZ stage.

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Discriminating Tritium Collector:

The OS1700 from EG&G ORTEC® uses a two-stage collection process—one for oxides of tritium and one for elemental tritium and tritiated carbon compounds. The unit has a built-in palladium-catalyzed oxidation oven and oxides gaseous tritium. It also cracks and oxides tritiated carbon compounds, enabling collection of those chemical forms in the second stage. Samples are counted in the user's liquid scintillation counter to measure activity at tritium-in-air concentration levels as low as 0.37 Bq/m³ (10-11 mCi/ml).

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Large-Sample Scanning Probe Microscope:

The VISTA®-100 from Burleigh Instruments can accept samples up to 150 × 150 × 25 mm onto the manual XY stage. The translator and support block can be removed without tools to accommodate samples up to 280-mm wide and 100-mm high. The small footprint results from the SPM controller integration into the computer chassis.

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