

RESOURCES

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

High Precision Compact AMS System:

National Electrostatics Corp. in conjunction with ETH-Zurich has developed a compact AMS system designed both for high throughput pharmacological radiocarbon tagged samples and for high precision archaeological carbon dating. The entire turnkey system is designed to fit within a 6 m × 6 m room. When equipped with the 134 sample multicathode SNICS source it can process over 400 samples per day to 2% precision. Website: www.pelletron.com.

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Diode-Pumped UV Laser:

Coherent's AVIA™ 355-1500 is designed for drilling micro-via holes that interconnect the multilayers of high-density printed circuit boards, multichip modules, and chip-scale packages. The solid-state diode-pumped Q-switched uv laser produces more than 1.5 W of output power at 355 nm at 15 kHz. Via holes typically are drilled to 200–300 μm in diameter. AVIA can produce via holes of 15 to more than 50 μm in various metals and circuit-board dielectric materials.

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Power Conditioning Equipment:

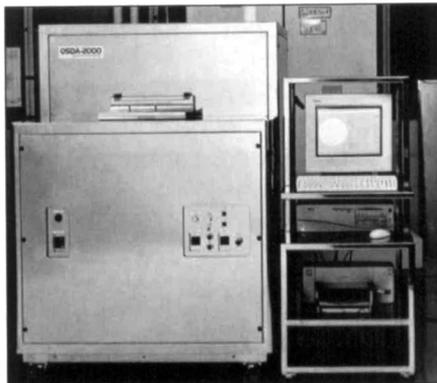
Control Concepts' 20-page catalog features high-performance filters and surge suppressors that help eliminate power fluctuations at the source. Included are technical specifications, installation, test results, and photos for the Islatrol® (Active Tracking® Filters), Islatrol® Plus (Transient Voltage Surge Suppressor with Active Tracking® Filter), Islatran® (Isolation Transformer with Islatrol Active Tracking® Filter), Islagard® (Surge Suppression System), and Supertrac® Plus (Active Tracking® Surge Suppressor).

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Vacuum Pumping Systems:

On-Board® TurboPlus pumps from CTI-Cryogenics offer throughput pumping and the benefits of high-speed water vapor pumping, integrated into a compact package with a single interface. The high water vapor pumping speed provides a five-fold increase over a stand-alone turbopump to reduce pumpdown times by 50–70%. The microprocessor communicates directly with the turbopump controller and the water pump. Users tailor preprogrammed routines for automatic startup, shutdown, regeneration, and power failure recovery.

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Optical Shallow Defect Analyzer:

Hitachi Scientific Instruments' OSDA-2000 nondestructively detects and measures defects as small as 0.02 μm inside silicon wafers and 0.05 μm on silicon wafer surfaces prior to circuitry fabrication. Typical defects detected include grown-in defects, stacking faults, oxygen precipitation, crystal originated particles, defects in epitaxial layer, slip lines, and surface particles. The system features a 0.5-μm measurement range with depth information and a 5-μm maximum detectable depth. Depth resolution is ±0.1 μm.

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Basket Shaft Straightening Tool:

Distek's SHAFT•CHEK™ is a calibrated NIST-traceable measurement device for checking and straightening paddle and basket shafts. The device can detect and often correct wobble created by bent shafts or improperly designed spindles that can cause erroneous test data due to hydrodynamic inconsistencies. Distorted baskets can be reshaped, and paddle blades can be verified for adherence to USP specifications. A V-block configuration and dial indicator facilitate measurement and adjustment.

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X-Ray Microanalyzer:

The Falcon™ from EDAX uses PCI bus technology and digital signal processing to increase x-ray count rates to 100,000 counts per second. The system features 32-bit architecture, an interface with Windows® 95/98 or NT, and automatic peak identification and deconvolution with various data reduction routines for quantification. Imaging tools include spot, line, and raster beam control functions for fast-mapping, quant mapping, image enhancement, and line scan. The design is upgradable to the EDAX Phoenix performance levels.

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Optically Clear Epoxy:

The EPO-TEK 301-2FL from Epoxy Technology is a two-component low-stress optical epoxy designed for fiber optic and optical applications in which stress-sensitive properties are important to the component or device being bonded, coated, or potted. The material provides a pot life of more than eight hours, and may be cured at room or elevated temperature. The epoxy maintains clarity before and after curing, with no loss of adhesion or decoupling when subjected to five days at 95% relative humidity and 30 to 60°C. The material passes thermal cycling from -40 to 70°C.

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Handheld Coating Thickness Measurement:

The Dualscope® MP40 from Fischer Technology uses Smart Probes to automatically detect the base material and then apply the appropriate measurement method of either eddy current or magnetic induction. Two data storage modes are available. Storage capacity is up to 10,000 measurements grouped in up to 1,000 blocks with dynamic storage allocation capability. One hundred application memories are available for storage of calibrations and related measurement data.

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Ceramic Materials:

Goodfellow's expanded line of ceramic materials includes boron nitride (hot isostatic pressed and pyrolytic), glassy carbon, and various grades of alumina, in addition to machinable glass ceramic, beryllia, zirconia, and quartz. In addition to sheets, bars, rods, tubes, fibers, and fabrics, materials are available as foam, powder, spheres, film, and monofilament. Supplied quantities range from a few grams to a few kilos, or larger quantities of items manufactured to specific requirements.

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Refurbished Test and Measurement Equipment:

Hewlett-Packard lists more than 1,200 refurbished test and measurement products on its website at www.hp.com/go/refurbished. The refurbished products have a remaining support life of at least two years. A one-year warranty covers all components covered by HP warranties on new products, but extended warranties are available. Also listed on the website are trade-in programs and sales on end-of-production runs.

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