

Product Resources



PDA spectrophotometer

The U-0080D photodiode array spectrophotometer from Hitachi is designed for biotechnology laboratories. It features standard DNA–RNA analysis software. According to the company, the instrument can scan the entire wavelength range in 0.05 s and can analyze trace amounts as low as 1 μ L. **Hitachi High Technologies America**, San Jose, CA; www.hitachi-hta.com

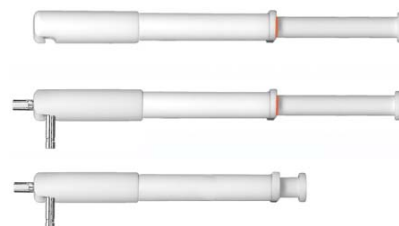
Circle 35



Electron multiplier

BURLE Electro-Optics' Extended Dynamic Range MAGNUM electron multiplier reportedly offers extended linearity over a wider current range, higher count rates, and lower noise compared with OEM electron multipliers. It is designed to provide high dynamic range, increased gain stability, and near elimination of feedback noise. A proprietary glass formulation reportedly facilitates long detector life. **BURLE Electro-Optics**, Sturbridge, MA; www.burle.com

Circle 36



Nebulizer cleaning device

The Eluo-OP nebulizer cleaning device from Glass Expansion is designed to work with a variety of nebulizers including the company's concentric glass, PolyCon, and OpalMist nebulizers, as well as most other brands of concentric glass nebulizers. **Glass Expansion Inc.**, Pocasset, MA; www.geicp.com

Circle 37



Echelle spectrograph

The SpectraPro HRE echelle spectrograph from Princeton Instruments/Acton is designed for general spectroscopy as well as laser-induced breakdown spectroscopy. The spectrograph is designed to sample continuously wavelengths ranging from 190 to 1050 nm. The spectrograph is designed to work with the company's camera systems and to be controlled by the company's WinSpec software. **Princeton Instruments/Acton**, Trenton, NJ; www.piaction.com

Circle 38



SFC–MS system

Thar offers its SFC–MS Resolution system, a combination of the company's supercritical fluid chromatography system with Waters' Micromass ZQ mass detector. The unit features Waters MassLynx/OpenLynx software for complete control over the SFC–MS system. **Thar Technologies, Inc.**, Pittsburgh, PA. www.thartech.com

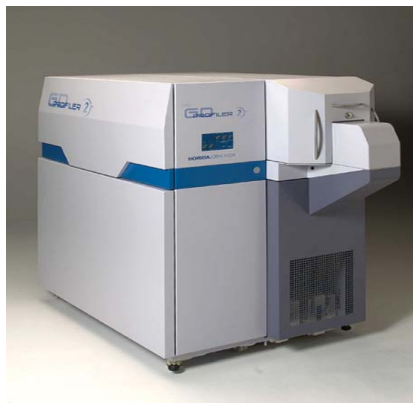
Circle 39



XRF spectrometers

Thermo Electron's ARL ADVANT'X wavelength dispersive XRF spectrometers are available with output power levels of 1200, 2500, and 4200 W. The instruments are designed for applications including petrochemicals, environmental, geology, precious metals, oxides, ceramics, food, and chemicals. They can analyze elements ranging from beryllium to uranium. **Thermo Electron**, Waltham, MA; www.thermo.com

Circle 40



Glow discharge spectrometer

HORIBA Jobin Yvon's GD-PROFILER glow discharge spectrometer reportedly improves depth resolution to <1 nm. The instrument features a pulsed RF source that is suitable for thermally sensitive conductive and non-conductive layers. The instrument's HDD detectors for each element reportedly provide an instantaneous dynamic range of 10 decades, which allows elements to be determined at the parts-per-million level in one layer and at 99+% in the next. **HORIBA Jobin Yvon**, Edison, NJ; www.jobinyvon.com

Circle 41



Solid-phase extraction cartridges

Dig/SEP solid-phase extraction cartridges can reportedly capture, collect, and concentrate certain elements in complex matrices, collect metal ions from acid digestion matrices, separate heavy metals from oil and other organic matrices, collect and retain precious metals, and collect radioactive elements for the nuclear fuel industry. Specific lead and mercury cartridges are available. **SCP Science**, Champlain, NY; www.scpscience.com

Circle 45



Spectrometer

The Red Tide spectrometer from Ocean Optics is a general-purpose instrument designed for budget-conscious teaching and research labs. According to the company, the spectrometer features a spectral response from 350 to 1000 nm, an order-sorting filter to eliminate second-order effects, and an optical resolution of 2 nm (FWHM). The instrument has an 89.1 mm x 63.3 mm footprint, a linear CCD-array detector with 650 active pixels, and a USB interface. **Ocean Optics**, Dunedin, FL; www.oceanoptics.com

Circle 42



Raman spectrometers

Lambda Solutions' 532-nm Dimension-P2 Raman spectrometers have a resolution of 4 or 6 cm^{-1} . The systems are controlled with the company's RamanSoft software for automated data acquisition and processing. **Lambda Solutions, Inc.**, Waltham, MA; www.LambdaSolutions.com

Circle 46



Digital pulse processor

Amptek's PX4 reportedly combines a digital pulse processor, a power supply, a shaping amplifier, and a multichannel analyzer. It is compatible with the company's XR-100 detectors and detectors from other manufacturers. The processor is software-driven and has 24 programmable peaking times between 0.8 and 102 μs . **Amptek, Inc.**, Bedford, MA; www.amptek.com

Circle 43

XRF software

The RoHS-Star software for XRF systems from Innov-X is designed to assist manufacturers in complying with the European Union's Restriction on Hazardous Substances directives. The software enables screening of electronics systems, PC boards, plastic parts, and components for compliance. It automatically senses and adjusts for different types of samples — alloy, plastic, and mixed. **Innov-X Systems**, Woburn, MA; www.innov-xsys.com

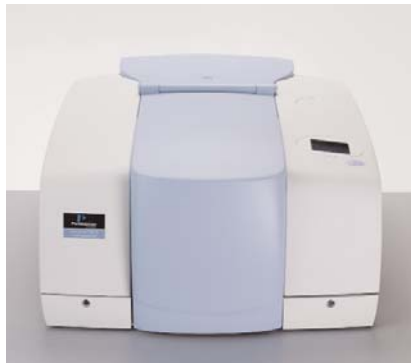
Circle 44



Custom standards

Inorganic Ventures manufactures custom inorganic standards for applications including ICP, ICP-MS, AA, and IC. Standards are made according to user specifications and come with an extensive certificate of analysis that details NIST traceability, certified values, and trace impurities. Reportedly, the company can ship 99% of its custom solutions in three days or less. **Inorganic Ventures**, Lakewood, NJ; www.inorganicventures.com

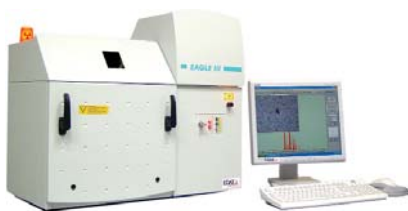
Circle 47



Spectrometers

PerkinElmer's Spectrum 100 FT-IR and 100N FT-NIR spectrometers are designed with a UATR accessory that is designed to offer higher efficiencies for the analysis of a wide range of samples. The instruments also feature a fiber-optic NIT probe, an updated version of the company's Spectrum and AssureID software packages, and a Go Button feature, which reportedly allows continuous analyses of multiple samples at the instrument. **PerkinElmer**, Wellesley, MA; www.perkinelmer.com

Circle 48



Elemental analyzer

The Eagle III XPL micro-EDXRF spectrometer from EDAX is now available with an optional primary-beam-filter accessory that reportedly improves detection limits. The spectrometer uses capillary optics, CCD video imaging cameras, and a motorized xyz stage for non-destructive small-spot analysis correlated with video imaging. Features include simultaneous detection of elements ranging from Na through U, and little or no sample preparation requirements. Typical applications include forensics, failure analysis, coating thickness-composition measurement, quality control, and chemical imaging.

EDAX, Mahwah, NJ; www.edax.com

Circle 49



XRF spectrometer

PANalytical's Axios-Metals wavelength dispersive, sequential XRF spectrometer is designed to meet the needs of users in the steel and metals industries. The system comes with NiFeCo-FP or Cu-base-FP application solutions, including templates and standards. It provides data across the elemental range from fluorine to uranium in concentrations from parts per million to 100 wt%.

PANalytical, Natick, MA; www.panalytical.com

Circle 50



NIR analyzers

Foss NIRSystem's XDS MasterLab and XDS MultiVial NIR analyzers are designed for rapid nondestructive measurements of tablets, liquids, and solids. The MasterLab analyzer can be used for automated reflectance or transmission analysis of a tray of multiple tablets or vials. An integrated variable spot-size feature enables adjustment of the sample illumination based on the diameter of the tablets and vials being used. The MultiVial analyzer can be used for automated sampling without transmission for tablets. **Foss NIRSystems**, Laurel, MD; www.fossnir-systems.com

Circle 51



ICP spectrometer

The Prodigy-H ICP spectrometer from Teledyne Leeman Labs is designed for the measurement of halogen elements chlorine, bromine, and iodine at sub-ppm levels along with more routine measurements. The instrument incorporates all the features of the company's Prodigy ICP-OES, but with a deep-UV detection system for wavelength coverage throughout the 134–1100 nm range.

Teledyne Leeman Labs, Hudson, NH; www.leemanlabs.com

Circle 52



Clean-up filters

Semrock offers MaxDiode clean-up filters designed for use with 635-, 440-, and 405-nm laser diodes. They reportedly have 90% transmission over a defined range of each diode's possible laser wavelengths, and reduce unwanted out-of-band spectral noise. The filters feature steep edges transitioning to high blocking, and the company's hard coating, which is designed to prevent burn out.

Semrock, Rochester, NY; www.semrock.com

Circle 53



Fiber-optic flow cells

RoMack introduces their new line of fiber optic flow cells designed for absorption and fluorescence measurements. The cells offer path lengths from 1 mm to 1 meter and cover the applications ranging from UV through NIR. Features include application in harsh environments, including high temperature and aggressive chemicals. **RoMack, Inc.**, Williamsburg, VA; www.romackfiberoptics.com

Circle 54

Turnaround time

SPEX CertiPrep's certified reference materials division announces a new turnaround time for inorganic custom standards. The old time frame was 14 days. The current turnaround time is seven days from order placement to the day of shipping. **SPEX CertiPrep**, Metuchen, NJ; www.spexcsp.com

Circle 57



ATR accessory

The AccessATR from Harrick Scientific is designed for ATR measurements of solid, liquid, and paste samples. The accessory is equipped with a built-in trough to contain liquids and a press for solid sampling. **Harrick Scientific Products, Inc.**, Ossining, NY; www.harricksci.com

Circle 58



Handheld Raman spectrometer

Ahura's FirstDefender handheld Raman instrument is designed for immediate identification of solids, liquids, and mixtures through the walls of their containers. The instrument is based on the company's optical engine. Features include the company's mixture analysis software, a sample library, a weight of less than 4 lb, and 5-h battery life. **Ahura Corporation**, Wilmington, MA; www.ahuracorp.com

Circle 55



Cuvette

The TrayCell cuvette from Hellma reportedly uses the surface tension of 4 μL of sample to form a repeatable optical path of 1 mm \pm 0.02 mm. According to the company, it is compatible with most spectrophotometers, operates at temperatures ranging from 5 $^{\circ}\text{C}$ to 50 $^{\circ}\text{C}$, and has a wavelength range of 190–800 nm. Applications include biotechnology, drug discovery, and forensics. **Hellma**, Plainview, NY; www.hellmaUSA.com

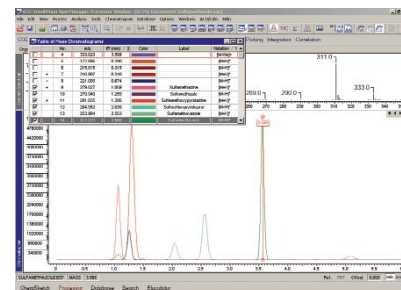
Circle 59



Dissolution tester

Jasco's model DT-810 dissolution tester is designed to provide fully automated dissolution testing of up to eight samples with either the standard paddle method or the optional rotating-basket method. The tester offers a circular design for uniform water temperature and an automatic centering mechanism that provides hands-free positioning of the dissolution vessels and drive shafts. **Jasco, Inc.**, Easton, MD; www.jascoinc.com

Circle 56



ACD/IntelliXtract

LC-MS software

ACD/Labs introduces ACD/IntelliXtract LC-MS software designed for automatic molecular weight determination, component extraction, and sample comparison. The software considers ion adducts, multimers, $^{12}\text{C}/^{13}\text{C}$ ratios, isotopes, neutral losses, and fragment ions to provide accurate molecular ion identification.

Advanced Chemistry Development, Inc., Toronto, Canada; www.acdlabs.com

Circle 60



UV-vis-NIR spectrometer

StellarNet's UVN-Super-Range spectrometer is designed to have a wavelength range of 200–110 nm with a high speed USB2 interface. The instrument features a 2048-element detector array with the company's eXtreme grating optics, which reportedly provide a resolution of better than 0.75 nm. **StellarNet**, Tampa, FL; www.stellarnet-inc.com

Circle 61



Molecular imager

Bruker Daltonics' MALDI Molecular Imager is designed for in-vitro imaging of peptide and protein biomarker distributions in tissue sections and cell clusters, for example from tumor regions. The system features the company's MALDI-TOF mass spectrometer for high-throughput MALDI imaging together with the company's *flexImaging* visualization and image processing software. **Bruker Daltonics Inc.**, Billerica, MA; www.bdal.com

Circle 62



NIR integrating sphere

PIKE Technologies' NIR IntegratIR integrating sphere is said to provide high performance qualitative and quantitative analysis of a wide variety of samples. The integrating sphere contains a fully integrated indium-gallium-arsenide detector. Options include a rotating stage for averaging large samples and an automated transmission stage for pharmaceutical tablet analysis. **PIKE Technologies**, Madison, WI; www.piketech.com

Circle 63



Nitrogen generator

The NitroFlowLab self-contained membrane nitrogen generator from Parker Balston is designed to produce 99% pure nitrogen with pressures up to 116 psig. A combination of compressors, filtration, and membrane separation produces a continuous supply of nitrogen. High and low pressure compressors matched to hollow fiber membranes separate the clean air into a concentrated nitrogen stream and an oxygen-enriched permeate stream, which is vented. **Parker Hannifin Corporation**, Haverhill, MA; www.parker.com

Circle 64



Benchtop XRF analyzer

The PHOENIX II benchtop polarized XRF analyzer from SPECTRO is suitable for measuring elements ranging from magnesium through uranium in liquids, solids, and powders. The instrument combines a 48-kV tube and polarized source x-rays with a gas-filled proportional counter detection system. X-ray filters separate the spectral peaks of elements with adjacent atomic numbers.

SPECTRO Analytical Instruments, Inc., Marlborough, MA; www.spectro.com

Circle 65



Imaging spectrograph

The Shamrock 163i imaging spectrograph from Andor Technology is based on a Czerny-Turner optical layout featuring a focal length of 163 mm, an entrance aperture ratio of f/3.6, and a wavelength resolution of 0.17 nm. The instrument includes interchangeable gratings and slits that allow users to select different wavelength ranges and resolutions. **Andor Technology**, Belfast, UK; www.andor.com

Circle 66



Mercury analyzer

Buck Scientific's model 410 mercury analyzer is designed for the analysis of trace levels of mercury in drinking, surface, and saline waters, as well as domestic and industrial wastes. The instrument achieves detection limits of 10 ppt/absolute mass 0.0025 mg with a 400-mm flowcell. **Buck Scientific**, East Norwalk, CT; www.bucksci.com

Circle 67

Sample preparation

The ExplorerPLS microwave synthesis system from CEM is built on the company's Discover platform. The system has a 24-place reaction deck with four independent autosampler racks. Its dimensions are 14.5"W x 27"H x 21"D to fit into standard hoods. **CEM Corporation**, Matthews, NC; www.cem.com.

Circle 70

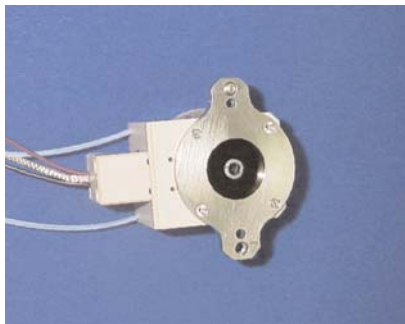


Ionization source

MassTech's AP/MALDI atmospheric pressure MALDI source creates ions at atmospheric pressure instead of under vacuum. The source uses a UV laser to irradiate samples consisting of cocrystallized matrix and analyte.

MassTech, Inc., Columbia, MD; www.apmaldi.com

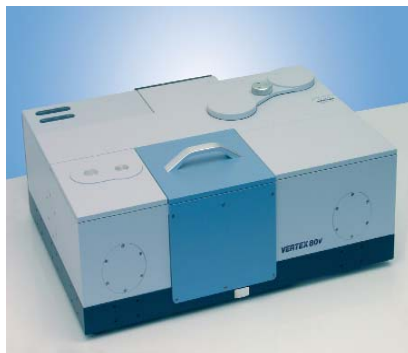
Circle 71



Time-of-flight detector

BURLE Electro-Optics introduces its high-speed coaxial bipolar time-of-flight detector for mass spectrometry applications. The detector reportedly combines the temporal resolution of microchannel plate-based detectors with the coaxial capabilities of flat metal anode detectors. According to the company, features include flat microchannel plate input surface, extended dynamic range small-pore microchannel plates, bias up to ± 10 kV, and system gains up to 10^7 . **BURLE Electro-Optics**, Sturbridge, MA; www.burle.com

Circle 68



FT-IR spectrometer

Bruker Optics' VERTEX 80v vacuum FT-IR spectrometer is designed to provide high rejection of the interference from atmospheric gases, such as water vapor and carbon dioxide. Data acquisition is based on dual-channel 24-bit analog-to-digital converters integrated with the detector, which reportedly yield a high signal-to-noise ratio. According to the company, the instrument's linear air bearing interferometer allows a resolution < 0.07 cm^{-1} . **Bruker Optics**, Billerica, MA; www.brukeroptics.com

Circle 72



Position controller

Physik Instrumente offers the E-625 nanopositioning controller to drive the company's PIFOC family of piezoelectric Z-stack nanofocusing drives. It reportedly can provide lower than 1-nm resolution and achieve response and settling times on the order of 10 ms. The controller features a high-bandwidth analog interface, a 20-bit digital interface, a low-noise piezo power amplifier, a high-speed servo controller, and sensor electronics for nanopositioning sensors. **Physik Instrumente**, Auburn, MA; www.pi-usa.us

Circle 69



MS analyzer

The TriVersa NanoMate MS system from Advion combines LC-MS, fraction collection, and ESI chip-based infusion. The system is designed for a wide range of analyses including biomarker discovery, metabolite identification, protein identification, posttranslational modification analysis, lipidomics, top down analyses, and noncovalent interaction research. It is compatible with columns ranging in size from 75 μm to 4.6 mm. **Advion BioSystems**, Ithaca, NY; www.advion.com

Circle 73



Table-top press

International Crystal Labs introduces the E-Z Quick Table Top press. It is constructed from stainless steel, chrome-plated steel, and anodized aluminum. According to the company, the press mounts vertically, which enables the use of body weight and shoulder muscles. The press uses the 7-, 4-, and 2-mm die sets that are used in the company's Quick Press and Port-A-Press presses.

International Crystal Laboratories, Garfield, NJ; www.internationalcrystal.net

Circle 74



Mass spectrometer

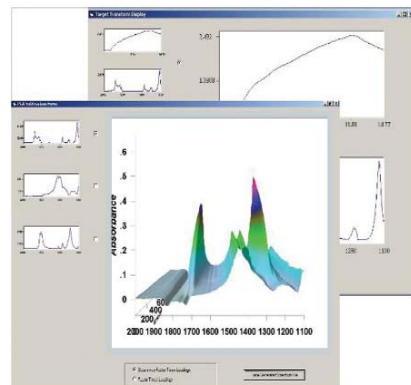
The AccuTOF-DART mass spectrometer from JEOL is designed for direct analysis of surfaces, liquids, and gases without sample preparation. Applications include forensics investigations, pharmaceutical testing and development, environmental and homeland security response, and product analysis. **JEOL USA**, Peabody, MA; www.jeol.com

Circle 76

Brochure

ITT, Power Solutions offers a new KOBRA precision metal oxide high-voltage and power resistor brochure. The brochure features the company's power, cylindrical, flat, and ring resistors. Product features, specifications, and specific ordering instructions are covered. **ITT, Power Solutions**, West Springfield, MA; www.ittpowersolutions.com

Circle 77



Software

ReactionSleuth software from Remspec is designed for postprocessing of reaction monitoring datasets. The software works with multi-files in the spc format and offers PCA/Target transformation, peak-fitting capability, and 3D displays of real and synthetic datasets.

Remspec Corporation, Sturbridge, MA; www.remspec.com

Circle 79



Raman spectrometer

The battery-operated MiniRam Raman spectrometer comes with a 785-, 532-, or 1064-nm excitation laser. The spectrometer can collect spectra from 175 to >2500 cm^{-1} , and includes a sampling probe for evaluation and identification of solids and liquids.

B&W Tek, Inc., Newark, DE; www.bwtek.com

Circle 80



ICP-OES systems

The 700-ES ICP-OES instruments from Varian are designed for a variety of applications ranging from environmental to pharmaceutical. The 710-ES models are entry-level instruments suitable for educational institutes and for industries to comply with environmental protection laws and regulations. The 720-ES and 730-ES models feature a CCD detector designed for high performance and speed. **Varian, Inc.**, Palo Alto, CA; www.varianinc.com

Circle 78



Equipment and supplies

LabX is an on-line marketplace that connects professional buyers and sellers of scientific equipment and supplies. Since 1995, LabX has been a highly specialized business-to-business marketplace where scientific equipment and supplies can be purchased and sold. More than 60,000 registered members visit LabX to purchase and sell laboratory, medical, test and measurement, spectroscopy, semiconductor, and chromatographic products. **LabX**, Ontario, Canada; www.labx.com

Circle 81



Wireless spectrometer

The AvaSpec-BT Bluetooth spectrometer by Avantes allows wireless communication up to 150 m away from a PC. According to the company, the instrument's small size and weight of 720 g allows use in places where electricity is not available. A battery pack is available that is designed to enable more than 6-h of continuous operation. **Avantes**, Boulder, CO; www.avantes.com

Circle 82



Portable IR spectrometer

The InfraSpec VFA-IR spectrometer from Wilks Enterprise is designed to accurately measure the blend ratio of biodiesel in diesel fuel. Percent concentration results are displayed on a PC in less than 1 min. The spectrometer utilizes attenuated total reflection sampling to make the analysis. According to the company, the measurement range is 0.05–100% with an accuracy of 0.05% of scale. **Wilks Enterprise, Inc.**, South Norwalk, CT; www.wilksir.com

Circle 83



Spectroscopy software

Thermo Electron offers version 7.3 of its OMNIC Professional software suite for the company's FT-IR, Raman, and FT-NIR spectrometers. The software features 2D and 3D data visualization tools, programmable data collection events, and integrated data processing and analysis functions. Applications include hyphenated techniques such as TGA-IR and GC-IR, and conduction kinetics and rapid-scan experiments using FT-IR or Raman spectrometers. **Thermo Electron**, Waltham, MA; www.thermo.com

Circle 84



High purity salts and solutions

GFS Chemicals uses its high purity acids to manufacture salts and solutions used in trace metal analysis. According to the company, a metals basis purity of 99.999% characterizes many of its matrix modifiers and ionization buffers, such as $\text{NH}_4\text{H}_2\text{PO}_4$, NH_4NO_3 , $\text{Ni}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$, $\text{Mg}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$, $\text{Pd}(\text{NO}_3)_2 \cdot \text{H}_2\text{O}$, $\text{LaCl}_3 \cdot 7\text{H}_2\text{O}$, $\text{La}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$, KCl , KNO_3 , and LiNO_3 .

GFS Chemicals, Inc., Powell, OH; www.gfschemicals.com

Circle 85



Raman probes

InPhotonics' RPI Raman fiber-optic probes are designed for installation in chemical and pharmaceutical manufacturing facilities. Probes are available up to 2 in. in diameter with any size ANSI/DIN flange and several feet in length for suitable positioning in the reaction vessel. According to the company, the design reduces optical losses over such long lengths. The probes can withstand pressures as high as 3000 psi and temperatures as high as 250 °C. The probe features two backup containment fields, compatibility with NEC and ATEX regulations, and a purged junction box.

InPhotonics, Inc., Norwood, MA; www.inphotonics.com

Circle 86



High-voltage module

Spellman High Voltage introduces the model MX10 high-voltage module for mass spectrometry. The DC-DC converter features hot switchable polarity reversal at 10 kV between 100 and 250 ms, and low peak-to-peak ripple performance. Applications include security detection systems, LC-TOF dynodes, sample ionization, as well as capillary electrophoresis and electrostatic printing.

Spellman High Voltage, Hauppauge, NY; www.spellmanhv.com

Circle 87