

Compact scope

Lenox Instrument's Micro Borescope offers a clear, bright image suitable for close-range inspection of electronic components, medical devices, and cast and machined parts as well as in security and limited-access applications. Features include a focusing eyepiece and a fiberoptic bundle that offers improved resolution. A rugged design and construction enable the scopes to tolerate tip deflections and moderate bending. All models are video- and digital-adaptable, allowing for viewing and recording of real-time or still images for future reference. Offered in flexible and semi-rigid models, the scope is available in diameters from 0.02 in (0.5 mm) and in standard lengths from 4 to 600 in (102 to 15,240 mm). Custom lengths and configurations are also available.

For more information, circle 40



Pressure transducer

Kavlico's model P321 OEM differential pressure transducers are suitable for air, water, engine air intake, exhaust gas, coolant, oil, and fuel flows as well as for product mixing and blending applications. Designed for high-volume applications, the transducers can be specified with pressure ranges of 5 to 50 psi (0.34 to 3.44 bar) with a 60-psi (4.1-bar) operating line pressure and function on a 5-V dc power supply with a 0.5- to 4.5-V dc output. The rugged housings are compatible with a broad range of liquids and gases and can be specified with or without a bracket assembly, depending on the end-use mounting configuration requirements. The stable, repeatable sensors have been designed to withstand hostile, high-temperature, high-shock, high-vibration, and electromagnetic noise environments. They have no moving parts and are suitable for the off-highway market, including construction and industrial applications.

For more information, circle 41



Reporting meter

Shockwatch has designed an onboard, electronic device that measures the actual run hours of equipment such as engines, motors, hydraulic pumps, and compressors. The RF hourmeter



sends runtime information via wireless network to local or remote computers running companion Java-based software. It can also monitor three independent inputs such as keyswitch, drive motor, and hydraulic motor. Equipped with LED operating status indicators, the hourmeter may be applied on any stationary or moving vehicle or machine. Applications include forklifts, cranes, earthmoving equipment, RVs, and boats.

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Spectral radiometer

The RAD9000 is a high-precision spectral radiometer from **Santa Barbara Infrared** that was designed to address **U.S. Navy** requirements for high thermal sensitivity and increased radiometric accuracy. Features include an intuitive graphical user interface via the RAD9000 host computer and a flexible system architecture including technology that allows precise measurement with absolute radiometric accuracy of better than 5%, spectral resolution of less than 2%, and thermal sensitivity better than 40 mK. System software integrates into automated test installations and offers capabilities to view, store, and export measurement data. The system allows for calibration of both projector-level test systems and stand-alone test assets. It consists of two primary modules: the electro-optics module with interchangeable detector radiometry modules; two additional modules are offered to maximize radiometric accuracy.

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Data acquisition

Daytronic's MeasuringPAD portable data-acquisition instrument is suitable for manufacturing, laboratory, and quality-control applications.

The rugged, 16-channel tool features color touchscreen and automated setup to collect, monitor, and display multiple sensor inputs for troubleshooting, maintenance, process tuning, fault recording, and trend analysis. Other features include live readout of up to 16 differential analog input and up to eight logic-level digital inputs. Input pods allow hookup of machine- or process-dedicated sensors. Standard TTL-level digital signals may be used to trigger the logging of data, perform programmable counting and timing operations, and monitor frequency and quadrature. Up to eight internal cross-channel math calculations can be set up to display and monitor additional process variables including power, efficiency, and corrected flow.

For more information, circle 44



Hydraulic filter

Baldwin Filters incorporates a new design for its medium-pressure hydraulic spin-on filters. The construction method uses a seamless can and an aluminum baseplate similar to the OEM filter design to offer the same performance as the previous generation. The baseplate reduces mass, placing less stress on the mounting stud, while the seamless L-Lock hem that retains the baseplate eliminates the possibility of seam leaks. An O-ring gasket replaces the larger molded gasket and reduces the gasket to first thread distance. Filters are installed with a 1/2 turn after gasket contact versus the previous 1-1/4 turns, resulting in improved installation and more thread engagement, according to the company. Burst pressures of the hydraulic filters exceed minimum specifications by 55%, and a 13% higher average tolerance to pressure pulses of 0 to 500 psi (0 to 34.5 bar) is indicated.

For more information, circle 45



Small-engine testing

Version 4.1 of the DynoLAB Test Executive and DynoLAB PT systems from **SAKOR Technologies** features a complete, regenerative ac small-engine dynamometer and is suitable for small-engine components found in lawn care tools, outboard motors, motorcycles, and generators. DynoLAB Test Executive Version 4.1 software is based on **National Instruments'**

LabVIEW and SAKOR's software architecture, providing operators the ability to create a complex test sequence without complex programming. Other features include a profiling module. In conjunction with the Version 4.1 software core, the DynoLAB PT is suitable for engine and powertrain testing for performance, durability, and quality control applications. DynoLAB PT offers control rates of up to 200-Hz, acquisition rates of less than 200 MHz, and optional I/O configurations.

For more information, circle 46



Hydraulic steel

Ovahyd 450, 600, and 700 hydraulic steel products from **Ovako Steel** are suited for the manufacture of stressed hydraulic components including cylinders and piston rods. By enabling the design of cylinders with thinner walls, components can be created with less mass. Ovahyd 450 offers 65,000 psi (4480 bar) of pressure and was developed primarily for the manufacture of hydraulic components subjected to heavy stresses. Comprised of micro-alloyed normalized steel, Ovahyd 450 has a longitudinal and transverse operating direction down to 4°F (-15°C). Ovahyd 600, 650, and 700 offer 87,000, 94,000, and 101,000 psi (6000, 6500, and 7000 bar), respectively; improved impact strength properties both longitudinally and transversely; and can operate down to -40°F (-40°C).

For more information, circle 47



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Circle 256

O-ring seal

The Trap-Seal from **Parker Hannifin's** Tube Fittings Division is a trapezoidal-shaped O-ring that provides improved seal reliability by virtually eliminating its possibility of popping out of the O-ring face seal groove. The trapezoidal design provides positive retention in the groove and creates a larger overlap between the groove lip and the trapezoidal seal. The device is interchangeable with the standard O-ring used in half-dovetail grooves, simplifying seal replacement in the field.

For more information, circle 48



Hydraulic remote controls

Eaton Series 50 hydraulic remote controls are based on a robust, hydromechanical design that places the main control valve away from the operator, providing an environment with less noise and heat while eliminating the need for complex and costly mechanical linkages. The controls provide good pressure metering capabilities and are available for hand, foot, and mechanical operations. Applications include construction, agriculture, transportation, and utility vehicles.

For more information, circle 49



Dewatering pump

The PP44S10 from **Pioneer Pump** is a 4-in (102-mm) version of the Silent Pack range of dewatering pumps. The pump is enclosed in a stainless steel enclosure, reducing sound levels to below 62 dB(A) at 23 ft (7 m). A **Deutz F3M2011** engine powers the pump, delivering 35 hp (26 kW) at 1800 rpm to enable optimum pumping efficiency. The pump has a maximum output of 1400 gal/min (5300 L/min) and maximum head of 105 ft (32 m) while operating at 1800 rpm. It can handle spherical solids up to 3 in (76 mm) diameter with good lift capabilities.

For more information, circle 50



Heavy-duty radios

TR124/24V (AM/FM), CR223/24V (AM/FM/Cassette), and CD423/24V (AM/FM/CD) radios from **Siemens VDO Automotive** incorporate a high-speed phase-locked loop synthesizer tuner, internal amplifier with 4 x 20 W maximum power, equalizer with six predefined sounds, and four modes of adjustable loudness control. All the radios feature advanced anti-theft protection and can accept existing steering wheel remote controls. They can be installed in trucks, buses, and heavy-duty equipment without the need for a voltage converter.

For more information, circle 51



Motor series

The Compact CBP motor from **Hägglunds** achieves a wider speed range and output power of over 1 MW, which it can maintain indefinitely. The unit's high efficiency and precision control make it suitable for applications in construction, power, marine, offshore, and process industries. The motor's torque and power are high in relation to its weight and size, and lighter machines can be offered for substantial space savings. Additional flexibility is created by the motor's through hole, which can accommodate a through shaft or even a tube for fluids.

For more information, circle 52



Load sensing valve

Working with the **Bosch Rexroth** family of electronic control units or with onboard electronic interfaces with CAN controller, the M4 load sensing valve offers open- and closed-loop control options to various mobile applications from small articulated truck cranes to forestry equipment. The M4 valve's onboard electronics include CAN modules equipped with pre-set valves for time ramps, curve gradients, or curve shapes that



can be adjusted during operation. Other features include a sandwich plate design with up to 10 elements; high-pressure proof up to 350/420 bar (5075/6090 psi) maximum; individual load-independent flow control; low hysteresis; fine control range; and manual override. Three valve sizes are available to handle the range found in mobile applications.

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Metallic coating

A chromium carbide and nickel base metallic coating that extends the life of components used in handling abrasive materials is offered by **Lund Precision Products**. Wear-Tuff abrasion-resistant metallic coating can double life expectancy, according to the company, of cast or machine wear components, depending on thickness and application. Suitable for use on conveyors, chutes, augers, or inside pipe tubing, the coating is applied as a slurry or is sprayed onto components and does not restrict product flow. Features include a hard surface finish that withstands sliding, mixing, scuffing, and other abrasive operations, particularly in material handling system guide components where product flow direction changes.

For more information, circle 54



NO SMOKING!

WARNING: Conventional electrical systems CAN NOT do:

- Open/Short circuit detection
- Current trend analysis
- Intelligent load management
- J1939, CAN, J1850, J1708/1587
- Wire harness reduction
- Integrated diagnostics & prognostics
- Programmable inputs & outputs
- Lower production, warranty, & maintenance costs
- Simplify troubleshooting

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