

Product showcase

Mechanical pump seal

Flowserve's QBQ LZ contacting-face mechanical seal features Precision Face Topography and a wavy face seal design. It provides high-reliability sealing with low emissions and is a solution for pumps in light hydrocarbon service at low vapor pressure margins. The seal is optimized for applications with specific gravity between 0.40 and 0.60; thus it is suited for use in refineries and the general hydrocarbon processing industry pumping ethane, ethylene, propane, propylene, butane, and other related liquids. The device solves the issue of vaporization in light hydrocarbon service at low vapor pressure margins by altering temperature and pressure dynamics on the seal faces.

For more information, circle 100



use of an AG2000E-QA drive in two different orientations. To optimize transporter steering, the vehicle will have an internal GW2000 guide wheel.

The system includes one AG2000E-QA Aero-drive equipped with a coalescing filter/muffler for use in Class 100 clean rooms.

For more information, circle 103



Vertical lift

Remstar International's Shuttle XP Vertical Lift Module features automatic shutter doors that form a physical barrier between the operator and the VLM's extractor shaft for added safety and product protection in aviation applications. The system is an enclosed system of vertically arranged trays, extraction platform, and computerized controls for automated retrieval of stored materials. Shutter doors allow increased inserter/extractor speeds while meeting worldwide safety standards. These steel parting doors form a physical barrier between the operator and the shaft and are particularly important in multi-access units that span more than one level, since they allow operators on multiple floors to work safely on presented trays while the unit is delivering trays to other extraction windows.

For more information, circle 101



Microwave switching

Teledyne Relays' RF and microwave switching matrices cover the spectrum from dc to 33 GHz. Multiple standard and customized switching configurations range from compact four-terminal modules to larger M x N rack assemblies. Each switching matrix incorporates the firm's miniature electromechanical relays and coaxial switches. The firm's components offer several advantages including ± 0.1 dB repeatability, high power up to 2 kW capability, 5 M cycles, built-in attenuation/bypass, and 50- and 75-ohm impedance.

For more information, circle 102



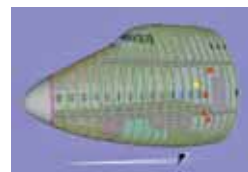
Satellite transport

AeroGo's Satellite Aero-Transport Vehicle features a capacity of 100,000 lb. Measuring 12 ft wide, 16 ft long, and 8.25 in tall, the unit is equipped with six 36-in neoprene slide-mount Aero-casters and forklift pockets and lifting attachments. Two quick-attach plates will be provided on the transporter that will allow

Aircraft maintenance toolbox

ParallelGraphics' Virtual Manuals Technology is a major component of **Boeing's** Maintenance Performance Toolbox, a set of performance-enhancing solutions for aircraft maintenance and troubleshooting. The ToolBox provides an online interactive 3-D interface that allows maintenance engineers to search visually for, and record, structural repairs made to an airplane. The 3-D interface improves the accuracy and reliability with which historical repair information can be stored, searched, and pinpointed, and it also lowers overall costs. The system uses ParallelGraphics VM Technology to reuse Boeing's CAD data and create interactive 3-D models that can be delivered online as part of the services to airlines.

For more information, circle 104



Input module

Dataforth's SCM5B48 accelerometer input module provides excitation to piezoelectric sensors with built-in microelectronic amplifiers. Providing constant current to the sensor, the module isolates, filters, and amplifies the output—yielding a high-level analog voltage output. Field-configurable, the current, signal gain, and high- and low-pass cutoff frequencies are set using slide switches. Applications include flutter testing, helicopter rotor reactions, military stress and structural tests, and rocket launchpad dynamics.

For more information, circle 105



Crimp tester

The **Cirris** DCR 1000 crimp resistance system measures the resistance in micro-ohms between the crimp barrel and the emerging copper wire. Using electric field detection, the quality of the crimp interface can be measured directly without invasion of the connector or insulation. Measurement is repeatable, is performed in seconds, and is accurate to better than 10%. Crimp structures can be accommodated on wires from 4 to 18 mm in diameter. Designed for use in the aerospace industry, the DCR 1000 is sensitive to contaminated or oxidized surfaces and low crimp pressure.

For more information, circle 106





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Shortwave IR camera

The KTX shortwave IR camera from **Sensors Unlimited**, a division of **Goodrich**, is smaller than 3.8 in³ and weighs less than 90 g. The camera was originally designed for the **U.S. Army's** Soldier Mobility and Rifle Targeting System. The indium gallium arsenide camera offers wide dynamic range imaging in partial starlight to direct sun illumination. It delivers clear, real-time video images and is suited for passive surveillance and for use with lasers.



For more information, circle 107

Structural testing software

AeroPro 5.0 software from **MTS** features new data acquisition functionality, expanded controller compatibility, and other performance-enhancing capabilities that complement the setup and operation of complex aerospace structural testing programs. The software integrates the operation and analysis of up to 360 control channels and up to 6000 data-acquisition channels into a single interface. It supports an array of leading data acquisition hardware. In combination with HBM or VXI technology hardware, the software enables the real-time display of synchronized control and data-acquisition information.



For more information, circle 108

Force balance accelerometers

Columbia Research Laboratories' SA-102MFTB and SA-302MFTA are precision miniature force balance accelerometers designed to operate from +24 to +32 V dc aircraft power. The high-level output signal and self-regulation qualities of the servo loop design make these accelerometers suited for airborne telemetry applications. The output signal format is compatible with most airborne voltage-controlled oscillators and signal processing systems. Both units feature the HP torquer system that provides the required performance and reliability for severe vibration and shock environments of aircraft and missile flights.



For more information, circle 109

Servo drive system

The XtraDrive servo system from **YET US** features advances in servo control technology that solve problems with system flexibility, tuning, and compatibility inherently associated with high-precision motion systems while streamlining overall system costs. The NCT control technology eliminates re-tuning by accommodating changing load requirements automatically. The system achieves zero settling time, optimizing non-linear gain control and system productivity. It contains an integrated amplifier with embedded 1.5-axis controller. It operates as a stand-alone unit or can be driven by an external programmable logic controller or multi-axis controller for step and directional input, analog velocity, or torque control and networking capability.



For more information, circle 110

Parts preparation

JENFAB's streamlined version of its Lean Clean 360 series of cellular rotating basket parts washing systems thoroughly cleans parts in rotating baskets using environmentally safe aqueous cleaning solutions. The combined spray, immersion, and spray-under-immersion action removes chips, oils, and coolants. Ultrasonics provide precision cleaning services. A special feature allows delicate parts, which cannot be rotated, to rock gently back and forth in the cleaning solution. The cleaning solutions continually filter and recirculate.



For more information, circle 111

Digital cable tensiometer

Barfield's CT12 cable tensiometer meets the industry's requirements for testing and measuring tension of aircraft cables. It provides accurate readings for both American and international cabling measurements. Cable tensions from 0.0625 to 0.25 in as well as from CWT5 to CWT 45 can be measured. The display indicates battery reserve, cable size and matching riser number, cable tension, and ambient temperature.



For more information, circle 112



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