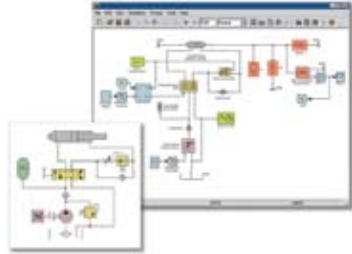


Product showcase

Hydraulic control simulation

SimHydraulics from **The MathWorks** allows developers to model and simulate hydraulic control systems within the Simulink environment. It is integrated with the firm's products for physical modeling and model-based design, and enables engineers to develop applications such as flight surface actuation by performing multi-domain modeling and simulation. The software provides engineers with the hydraulic building blocks to calculate pressure and flow through standard and nonstandard components. It includes capabilities to model and simulate the conversion of hydraulic power into driving torques and forces for mechanical motion, the effects of opening and closing valves, and simple mechanical components. A library of common hydraulic fluids is included. The tool enables designers to develop controllers and perform testing of the physical system model before it is implemented in hardware.



Digital rate sensor

Systron Donner's DIGI-Q is a compact digital quartz rate sensor featuring low noise, increased shock survivability, and high bias stability over temperature. The unit offers a single-axis, digital rate channel sensor solution to the system designer. It uses quartz microelectromechanical system technology and rivals the performance of fiber-optic gyro devices traditionally used in medium-performance inertial applications. It is suited for aerospace attitude heading reference systems and flight control systems. The unit features a standard full-scale range of $\pm 1000^\circ/\text{second}$, bias over temperature of $< 10^\circ/\text{hour}$, bias in-run stability of $3^\circ/\text{hour}$, and $< 0.05\%$ linearity.



Low-g accelerometer

Measurement Specialties' Model 4000 accelerometer is a signal-conditioned device with integral temperature compensation. It is a plug-and-play test and measurement unit designed for low-frequency monitoring. The lightweight unit features a ± 2 V full-scale output with a ± 2.5 V reference that offers users a single-ended output or the capability for differential configuration use. Options are offered for dynamic ranges of ± 2 to ± 200 g.



Preload indicating washers

Preload indicating washers from **SPS Technologies Aerospace Fasteners** provide an accurate method of measuring the preload (clamp force) in a bolted joint. Using preload indicating (PLI) washers to achieve maximum preload allows designers to maximize joint strength. Three types of PLI washers are available: A standard washer for under locknuts to induce an average preload of 80% of the yield strength in bolts with 80 to 260 ksi minimum ultimate tensile strength, an under-the-head version for applications where space limitations make it impossible to install an under-the-nut washer, and oversize washers for re-worked joints.



Air sensors

The Total Air Probe from **AMETEK Aerospace & Defense** combines multiple air sensor functions into a single unit. The unit reduces installation time and expense, and enhances reliability due to fewer connections. It meets the industry's latest requirements for altitude accuracy, lightning protection, and deicing, with air data pressure sensors that detect angle of attack, pitot air pressure, static air pressure, and total air temperature. Automatic heater power control provides improved heating efficiency, and an integral resistance temperature detector located optimally relative to airflow provides total air temperature readings to the air data system.



Hand tools

Textron Fastening Systems' Avdel Genesis nG hand tools are hydro-pneumatic tools for use in assembly operations that use breakstem rivets and related fasteners. Features of the nG2, nG3, and nG4 installation tools include a redesigned spring that reduces installation rates to 1.2 seconds per rivet, with pull forces that vary between 2100 and 4200 lb. An integrated cycle counter tracks placements and alerts operators to maintenance schedules. A soft rubber grip reduces operator fatigue, and air supply shuts off automatically when the trigger is released or when the stem collector is removed.





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