

# DESIGN NEWS

**W**hat do you get when you take a bad economy, throw in a complex engineering application proposal, and slap a fast-approaching deadline on it? The answer is quite possibly the perfect formula for the contenders of the Best Products of 2001. Designed for ease-of-use and efficiency, these products represent the best of their respective industries. Be it the latest 3D software or a new adhesive that eliminates steps in the assembly process, these Best Products contenders have all been recognized for ingenuity and innovation.

At our request, vendors nominated their best products introduced from September 2000 to September 2001. Our technical editors then picked finalists and passed them on to an independent panel of judges to select a winner in each of the seven categories. Here are the judges' choices for the best products in each category:

**Electrical/Electronic.** Sensory Inc. (Santa Clara, CA) has the best product in the field with its Voice Extreme™ Toolkit, a suite of speech-enabled hardware.

**Power Transmission & Motion Control.** Netzer Precision Motion Sensors Ltd. (Smithtown, NY) wins this category with its Rotary Electric Encoder™.

**Test, Measurement, & Control.** The LS-7000 optical micrometer system from Keyence Corp. of America (Woodcliff Lake, NJ) tops this group with its high-speed linear CCD and high-intensity LED light source.

**Fluid Power.** Moog Inc.'s (East Aurora, NY) Digital Interface Valve scores the highest for its flexible functions.

## PANEL OF JUDGES

**Dick Miller**, Technology Consultant, North Andover, MA.

**Michael Ruane**, Associate Professor of Electrical and Computer Engineering, Photonics Center, Boston University, Boston, MA.

**Hagen Schempf**, Ph.D., Senior Systems Scientist, Director of Hazardous Environments Robotics Laboratory, Carnegie Mellon University, Pittsburgh, PA.

**Douglas Stamps**, Ph.D., Associate Professor of Mechanical Engineering, University of Evansville, Evansville, IN.

up on these contenders, select the product that exemplifies design engineering at its best, and send back the ballot at the end of this article or e-mail us at [dnbest-product@cahners.com](mailto:dnbest-product@cahners.com) with your vote (please include company name and your subscriber number). The chosen Best Product will be featured in the March 11, 2002 Engineering Awards issue.



Best Products of the Year  
**2001**

### Computer Productivity Tools.

SolidWorks Corp. (Concord, MA) wins this category with SolidWorks 2001 3D mechanical design software.

### Fastening, Joining, & Assembly.

ADCO Products Inc. (Michigan Center, MI) wins the fastening category with its AT-3 Bakeable Acrylic Tape, which works as both an adhesive and a mask.

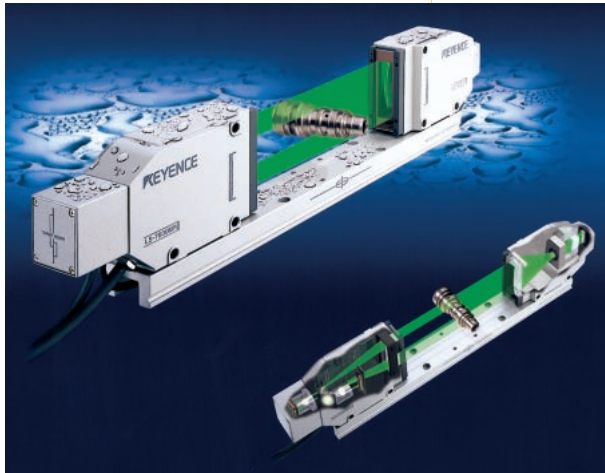
### Plastics, Metals, & Other Materials.

Delrin® acetal resin, from Dupont Engineering Polymers (Wilmington, DE) is noted for its low wear and friction characteristics.

All seven products represent the best engineering of their class, but only one can be chosen as the Best Product of 2001. We need your help to do this. The following pages contain full product descriptions, photos, and quotes from the judges. Read

—Michelle Lang, Staff Editor

## TEST, MEASUREMENT & CONTROL

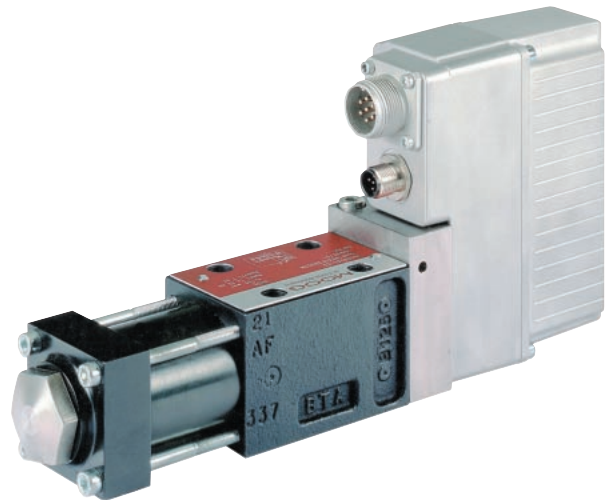


### Optical micrometer system measures with no moving parts

The LS-7000 optical micrometer system uses a high intensity LED light source and a high speed linear CCD to achieve measurement speed and accuracy. Without motors, rotating prisms, or other moving parts, heat and vibration are eliminated, reportedly making it maintenance-free. The sampling rate and repeatability are twice that of conventional scanning micrometers, at 2,400 samples/sec and  $\pm 0.15$  microns respectively. The unit also includes a Target Viewer, which allows for quick and accurate setting of the target in the beam. A continuous 30-mm wide beam eliminates scanning and thus detects targets without gaps. According to the company, clear target images are obtained with the low noise GaN LED light source. "The [LS-7000] integrates the latest in electro-optical componentry to the levels necessary for high-precision micrometry gauging," says Hagen Schempf of Carnegie Mellon University. "The use of this system in high-speed inspection as part of a production and assembly line will be a valuable resource to many industries."

Keyence Corp. of America, [www.keyence.com](http://www.keyence.com).

## FLUID POWER



### Digital interface valve has decentralized control

The Digital Interface Valve is designed to offer digital flow, pressure, and fieldbus communication capabilities, while also providing reportedly reduced system costs and installation time, and remote or on-site diagnostic convenience. The valve's flexible functions allow users to perform parameter tuning, define dynamic behavior, and configure characteristics to specific applications. For further flexibility, subsystem tasks are given to local devices, rather than the main control device. "The notion of decentralized control and fieldbus communications is becoming an embraced system architecture across process industries, allowing high-bandwidth, accurate local control based on locally-set parameters," says contest judge Hagen Schempf. The design of the valve is made to be temperature- and vibration-resistant, while still maintaining its limited mechanical size. According to Schempf, "Moog's [Digital Interface Valve] is a step into the future of smart and networked actuation and sensing systems."

Moog Inc., [www.moog.com](http://www.moog.com).

