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You Say You Want Some Resolution?

The MS-4 from Microscan accurately decodes
both linear bar codes and 2-D symbols.
For more, turn to page 10.

Linear Slide Systems

Compact slide systems are suitable for lab and medical test equipment, packaging, linear motion, and robotics. The MdrivePlus integrated motor and electronics from **Intelligent Motion Systems Inc.** (Marlborough, CT) combines with screw-driven slides to provide linear speed and accurate positioning with smooth motion and low noise. Speeds of more than 60 in./sec are attainable with standard linear slide leads of 0.10, 0.20, 0.50, and 1 in., travel per revolution, rivaling belts and cables, according to the company.



www.imshome.com
Reader Service #1

Dryers

High-performance four-bed dryers from **Dri-Air Industries** (East Windsor, CT) are designed specifically for the medical device molding industry. Stainless-steel components are used throughout all the areas of the HP4-X Series that come in contact with plastics or desiccants. The stainless-steel hoppers offer a smooth interior to eliminate catch points for materials. To further protect resin purity, the dryers have HEPA filters for high-efficiency filtration.

www.dir-air.com
Reader Service #2



Puller and Cutter Produces Medical Tubing

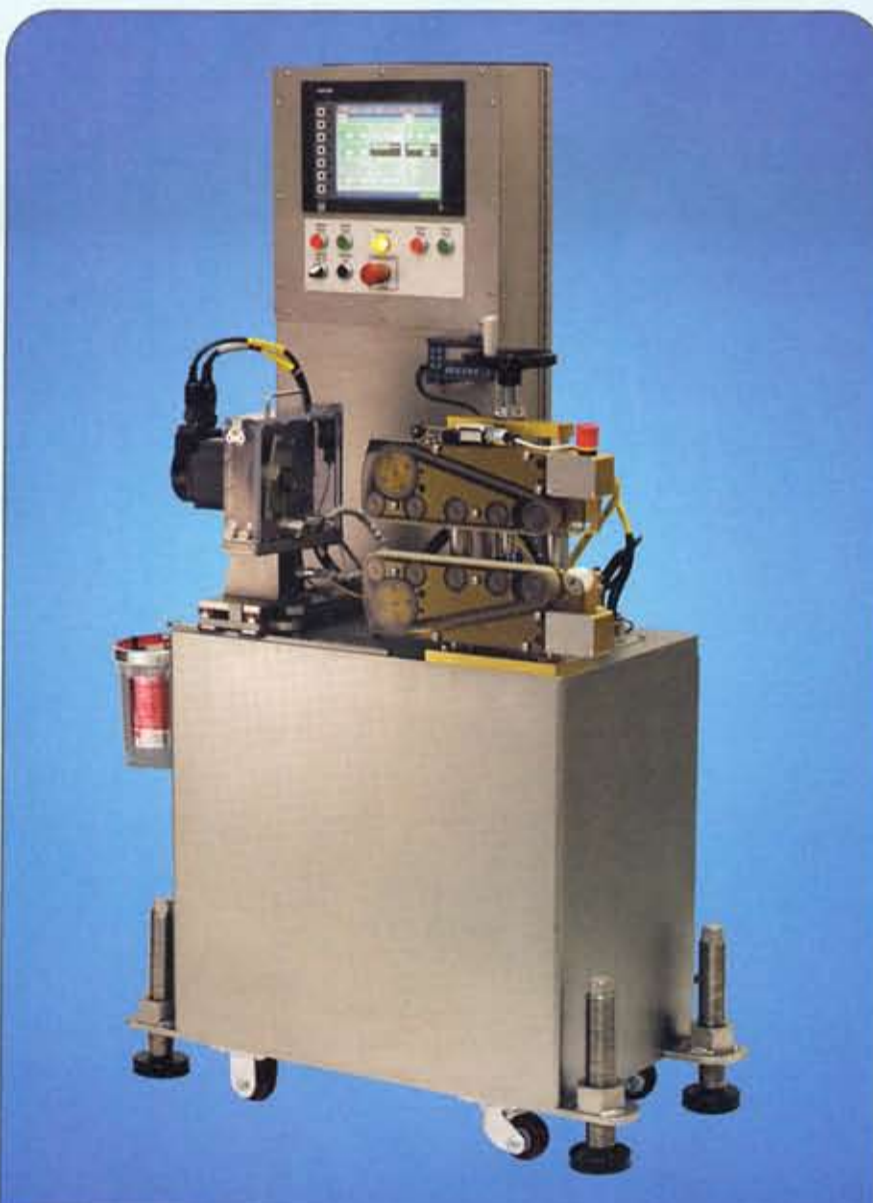
A servo-driven puller and cutter produces small-diameter medical tubing, including heart and brain catheters. The MedLine puller and cutter from **Conair** (Pittsburgh; www.conair.com) includes controls to simplify the production of tubing features, such as tapers and bubbles.

"Servo-drive and control technology have advanced considerably in recent years," says Bob Bessemer, senior product engineer. The key to the machine's precise operation, adds Bessemer, is the puller. Speed variation in the puller has been virtually eliminated through the addition of independent, position-controlled servo drives on the upper and lower belts. In-line planetary gear reducers are included as well.

The puller belt also contributes to the precision of the unit. Conventional poly-V belts tend to slip on the drive pulleys and must be coated on contact surfaces to comply with FDA regulations. The MedLine puller uses a self-tracking PD timing belt to avoid slippage. The belt is made of FDA-approved materials. For added cleanliness, a stainless-steel cabinet housing is available.

A touch-screen controller uses microprocessors and software to make complex setups easy and intuitive. The controller allows operators to switch on the fly from a linear velocity profile to a fully optimized profile. The optimized profile automatically programs the smooth acceleration and deceleration needed to make tapered tubing or bubble sections. The controller is repeatable enough to meet stringent medical standards.

The cutter portion of the unit also features a standard positional servo-drive system. The system provides cut-response repeatability within ± 0.1 millisecond. Conventional velocity-based servo systems are only capable of repeatability within ± 1 millisecond. Cut-response repeatability is related to product cut-to-length accuracy, with fast response becoming more important as extrusion rates increase. The cutter blade descends from above, making it easy to feed cut tubing to discharge conveyors. The cutter guards are transparent, allowing operators to easily see the condition of the blade or the presence of contamination.



Speed variation in the puller of a machine has been eliminated through the addition of servo drives on the upper and lower belts.

Company Offers Service Package To Support Meeting Stringent Industry Standards

A transparent methacrylate/acrylonitrile/butadiene/styrene (MABS) for external medical and diagnostic equipment applications is now commercially available in North America. **BASF** (Florham Park, NJ; www.basf.com) launched its Terlux 2802 HD resin in Europe in 2005.

To support customers in meeting the stringent requirements for producing medical and diagnostic equipment, the company offers a comprehensive service package for the resins. As part of the package, BASF agrees to provide advance notice of at least 24 months before any formulation change. Having a constant formulation is essential in the healthcare market, as deviations can require an extensive recertification process.

Other elements of the service package include biocompatibility testing in accordance with *United States Pharmacopoeia* Class VI and ISO-10933. The package also offers a variety of comprehensive information manufacturers need, such as chemical compatibility, design parameters, and purity specifications.

"Demanding national and international legal requirements have to be met before manufacturers obtain approval for their external medical or diagnostic equipment," says Tom Hazenstab, product manager for BASF's Specialty Polymers business in North America.

The transparency and performance attributes of Terlux 2802 HD MABS make the resin suitable for external medical and diagnostic equipment applications. Further benefits include the ability to be gamma sterilized, high impact strength, good chemical resistance, excellent surface quality and luster, and ease of processing.



Terlux 2802 HD is used to produce a respiratory gas humidifier for intensive-care medicine.

Bar Code Reading Technology Boasts Small High-Resolution Imager

A miniature solid-state imager is fully contained within a special lightweight but durable alloy case. The MS-4 imaging device from **Microscan** (Renton, WA; www.microscan.com) has powerful algorithms and can accurately decode both linear bar codes and 2-D symbols, such as Code 39, Data Matrix, PDF417, and RSS. These can be read omnidirectionally on multiple surfaces and at close range.

The ultrawide field of view and compact size of the imager, along with corner exit cables and optional right-angle mirrors, allow integration flexibility and provide a suitable choice for embedded clinical applications.

Integrating the device into laboratory instruments, such as sample preparation and handling systems, provides 100% data integrity.



A solid-state imager can accurately decode both linear bar codes and 2-D symbols.