

DPN

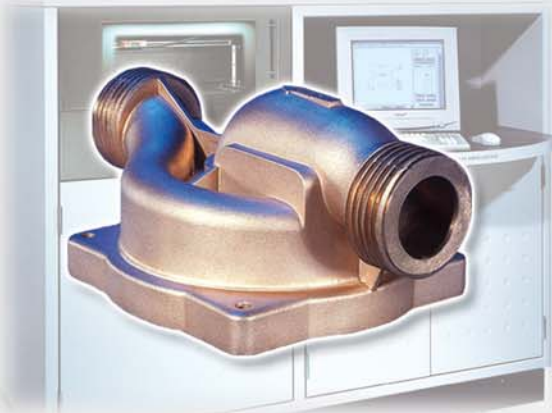
DESIGN PRODUCT NEWS



Volume 31 Number 4 *Covering the total design engineering function in Canada's OEM, in-plant and user industries* June 2003

Direct metal laser sintering speeds mold, metal part creation

Morris Technologies Inc. (morrstech.com) has announced direct metal laser sintering (DMLS) capability for North America. Its EOSINT M250Xtended DMLS machine from EOS GmbH (eosint.com) is said to represent a significant advancement in how

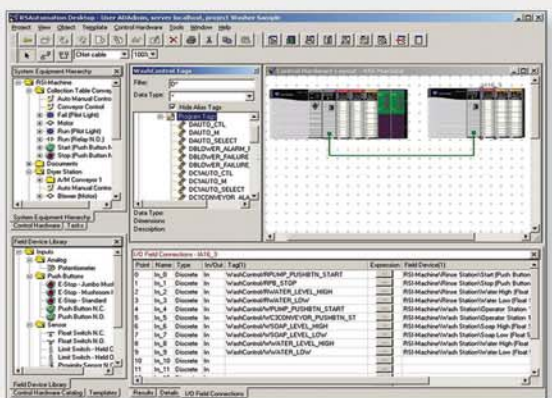


tooling for plastic injection molds, short series die casting tools and direct metal parts are produced. The DMLS technology is said to have already dramatically reduced time to market for many companies with rapid tooling and direct metal applications. Metal inserts or parts are produced directly in the machine in 0.02 mm layer thickness increments. The total build envelope is 250 x 250 x 200 mm.

Circle DPN 339

Automation design software tool reduces manual operations

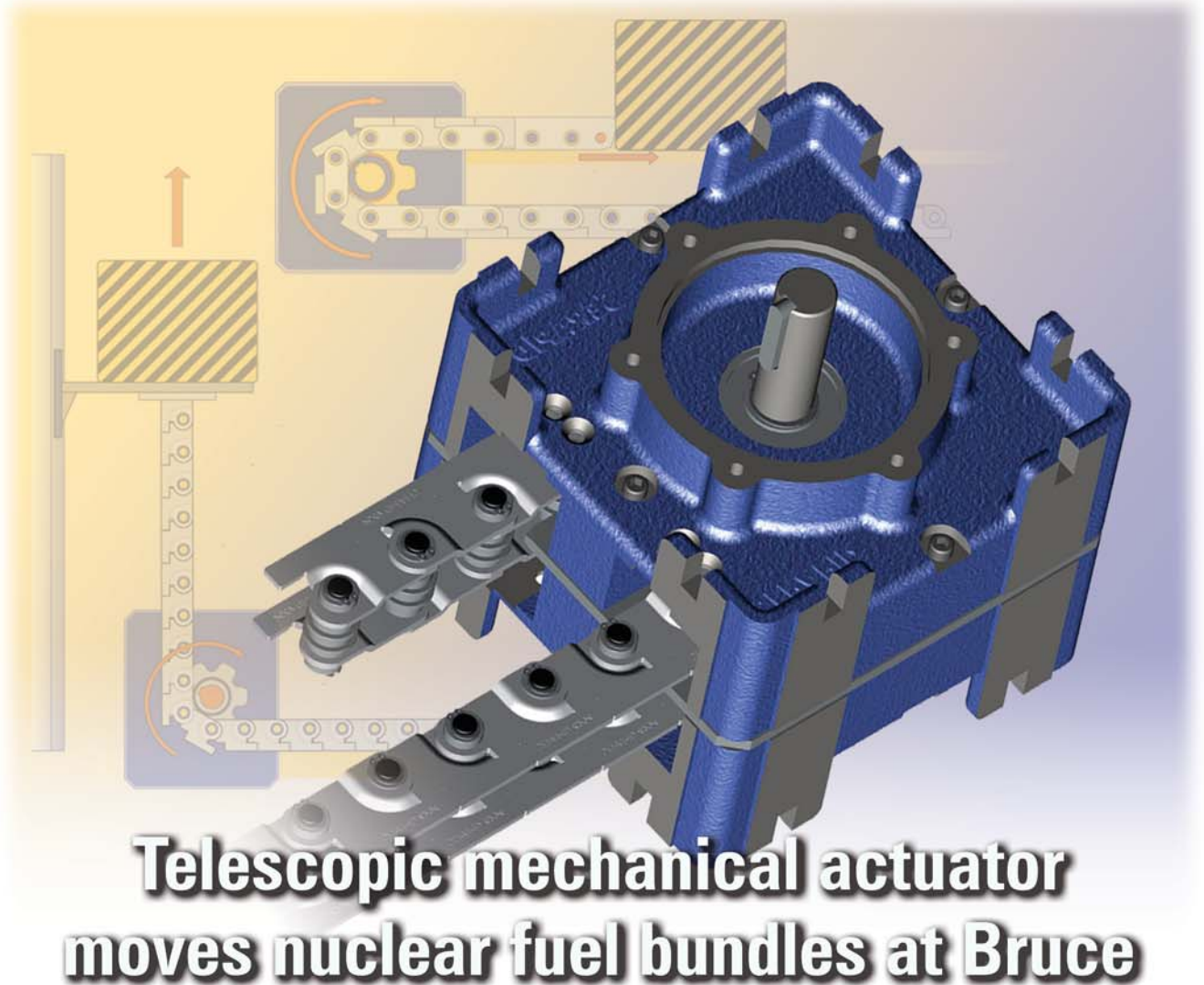
To help reduce rework and improve collaboration in automation design projects, Rockwell Automation (rockwell.com) has introduced Rockwell Software



RSAutomation Desktop, a Windows 2000 or NT-server-based application that acts as a central repository for control system design data. The program allows users to create and reuse logic, HMI, documentation and other data types as templates from previous projects.

Circle DPN 337

- **By Design: GPS system helps farmers plow their fields faster**
- **Automotive Scene: diesel engine technology has cleaned up its act**
- **Medical Engineering: fainting spells monitored with ECG belt**
- **CAD Feature: physical test and simulation comes together for rapid vehicle development**



To move loads horizontally or vertically, the Canadian market now has another mechanical actuation option: the SERAPID rigid chain from Trans-Quip Inc. of Grimsby, ON (trans-quip.com). Applied successfully for over 30 years in France, and for more than 10 years in the U.S., the rigid chain actuator system (above) is appropriate for a variety of challenging mechanical actuation applications.

The chain systems have been used extensively in the nuclear power field, including one specific system designed by Atomic Energy of Canada Ltd. for the Bruce CANDU reactor in Ontario. The Bruce system uses the rigid chain to drive a telescoping ram that translates horizontally 280 in. to insert 16 in. long x 6 in. wide fuel bundles into a reactor. The SERAPID (serapid.com) chain system was chosen specifically for its ability to be stored compactly at an angle to the plane of actuation.

The rigid chain can be used for both push/pull horizontal and lift/lower vertical applications. When passing through the unique drive housing, the chain system locks into a rigid column for moving loads vertically or horizontally. Once the chain retracts back through the drive housing, it regains the

flexible nature of a regular chain for compact storage.

Two basic system models are available. The fundamental design element of the ChainLift system is the unique chain. Each link features a hook-like extension called the shoulder that serves as a joint between neighboring links. When force is applied, the shoulders interlock and make the chain as rigid as a jack. At their cross-axes, the links are connected flexibly, just as in an ordinary chain. Driving the chain is a drive housing incorporating guide and reaction elements. These counter the thrust resistance and direct the links precisely onto the stroke path.

Also offered is a variation on this design, the LinkLift system for vertical applications. Employing a different chain link, the LinkLift design maximizes speed and stability while minimizing noise: the system is designed to lift loads up to 10,000 kg per column unsupported over 7 m of elevation. The chain link consists of two facing steel plates interconnected by two rows of cross-axes. These axes have rollers on their outer ends that are used for moving, driving and guiding the lift strand. One axis is shared between two

Continued on Page 10

Overmolding combines fashion, function

Inclosia Solutions (inclosia.com) has developed a manufacturing technology that allows different types of fabric – leather, metallics, suede or denim – to be incorporated in the covering of an electronic device.

The EXO overmolding system technology is a mass-production process said to meet the cost, quality, durability and volume requirements critical for the production of electronic devices. The system molds materials into the product in a two-step

process. First, the base enclosure structure is made from injection-molded thermoplastic. Then, the chosen fabric is permanently bonded to the base and the edges are sealed to prevent fraying or peeling.

The look and feel of the fabric is said to be maintained without compromising the device functionality. Fabric edges do not extend inside the housing where there is a potential for short-circuiting electronic components.

Circle DPN 338



See more products at www.dpnCanada.com...and get instant reader service information