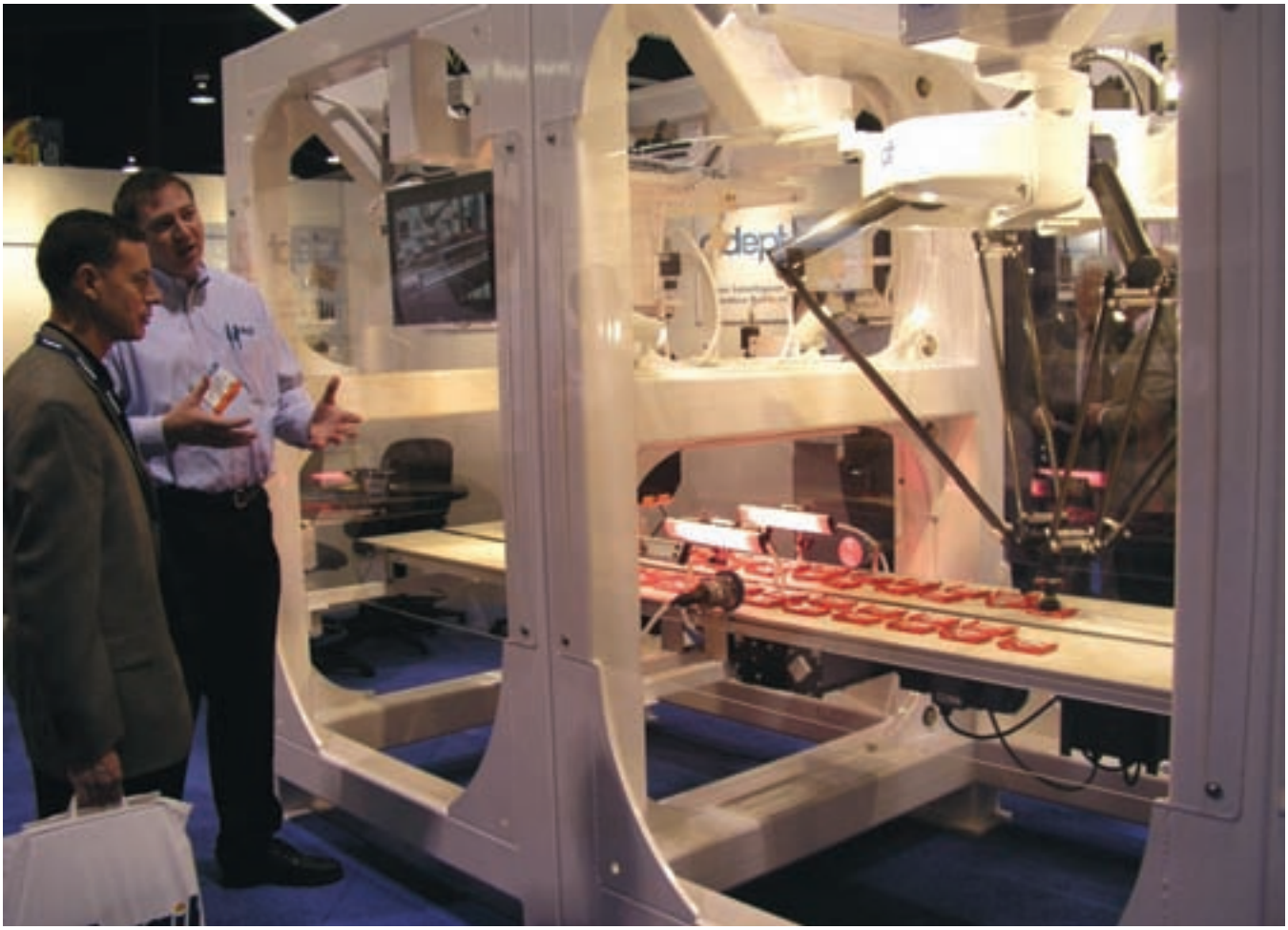


Revolution - SS

Nine Manufacturing Trade Shows Under One Roof

NATIONAL MANUFACTURING WEEK CONVENES OUTSIDE CHICAGO

Lindsey Snyder, Assistant Editor

Industry leaders will gather to showcase their latest technologies September 23–25, in Rosemont, IL. Presented by trade show organizer Canon Communications, National Manufacturing Week comprises nine manufacturing shows: Design Engineering, Plant Engineering, Industrial Automation, Enterprise IT, Assembly Technology Expo, Electronics Assembly Show, PLASTEC Midwest, Medical Design and Manufacturing Midwest and Green Manufacturing Expo.

Between these shows, 40,000 manufacturing professionals and more than 2,000 suppliers are expected in areas like aerospace/aviation, transportation/motor vehicle, defense, electronics, medical/pharmaceutical, computer/communications, food and beverage, industrial/agriculture and household appliances. Over the course of three days, buyers will have 400,000 square-feet of products and services to browse on the show floor, providing opportunities to accommodate important specifications and requirements.

Beyond the exhibition show floor, conference sessions for each show will take place Monday through Thursday from 9 a.m. to 4 p.m. Badges provide attendees with access to any conference session in addition to the exhibition. The sessions are designed to be informative forums, provide technical information and tips for improvement in each of the nine show categories.

Lean and green manufacturing are two related topics that appear overwhelmingly as conference session subjects. A show-opening keynote panel discussion entitled "So the Grass *Is* Greener on the Other Side: How Industry Leaders are Practicing Sustainability and Increasing Tomorrow's Prof-

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itability," is being held Tuesday, September 23 at 9 a.m. Four panelists represent Philips Healthcare, Hewlett-Packard, Best Buy and Exelon Corp. They will discuss how their respective companies have developed environmentally sound policies. Attendees will hear how design and manufacturing practices can embrace sustainability efforts, how supply chains can be reversed and how energy-efficiency programs can save energy and money. Bottom line cost-savings, end-of-life product design and corporate social responsibility will be covered.

Several other conference sessions address lean manufacturing in different applications. One such session is devoted to applying lean six sigma principles to machinery control system design. Attendees will be given a brief introduction to how the six sigma practice can be applied to building machinery. The session will also cover the hidden costs of component system integration, the strengths and weaknesses of multiple control system theories and the pyramid of engineering intervention as a cost-to-benefit comparison tool. Other lean manufacturing sessions include "Let's Make Maintenance Lean," "The State of Lean Manufacturing in 2008," "Making your Quality Management System Lean," and many others.

Innovation in supply chain management is the subject of another conference session, which will discuss methods to prosper in the global value chain. Topics include the type of value chains that can open new markets, challenges and tips to improve quality and competitiveness.

There's more on the global manufacturing subject with several sessions discussing the issues in outsourcing. One of these sessions aims to help small- and mid-sized manufacturers establish wholly-owned enterprises in China. The "China option" will be covered in regards to benefits and risks as well as the different steps along the way, such as contracting with a sourcing company and relationships with contract manufacturers. The session will identify five phases of implementation from concept to operational audits. A separate session on outsourcing is titled "An Often Overlooked Resource for Efficient Outsourcing." Attendees will learn how to reduce the various risks involved at different levels.

Professionals in the plastics industry can participate in the National Plastics Design Competition organized by the Society of the Plastics Industry's (SPI) Alliance of Plastics Processors (APP). The competition has been held for 36 years, but this is the first time it is co-located with PLASTEC Midwest. "Placing the APP's 2008 competition at PLASTEC Midwest will showcase the plastics industry's innovative designs and emerging technologies to a more diverse array of end-market industries and a much greater number of people than ever before," says William Carteaux, SPI president and CEO.

The National Plastics Design Competition is an opportunity for any department of the plastics industry value chain to demonstrate innovations, learn about emerging research and technologies as well as hear from keynote speakers. New design categories and awards are a feature of this year's contest, including bio-process systems, innovative packaging applications, medical products, sustainability, nanotechnology and bio-based materials.

With nine trade shows sharing a location and running concurrently, there is a full load of industry relevant activities. Suffice to say attendees will have no trouble filling their schedules.

National Manufacturing Week
September 23–25, 2008

Design Engineering
Plant Engineering
Industrial Automation
Enterprise IT
Assembly Technology Expo
Electronics Assembly Show
Plastics USA/Plastec Midwest
Medical Design and Manufacturing Midwest
Green Manufacturing Expo

Location:
Donald E. Stephens Convention Center
5555 N. River Road
Rosemont, IL

Exposition Dates and Hours:
Tuesday–Thursday 9/23–9/25
10 a.m.–4 p.m.

Conference Dates:
Monday–Wednesday 9/22–9/24
9 a.m.–12 p.m.

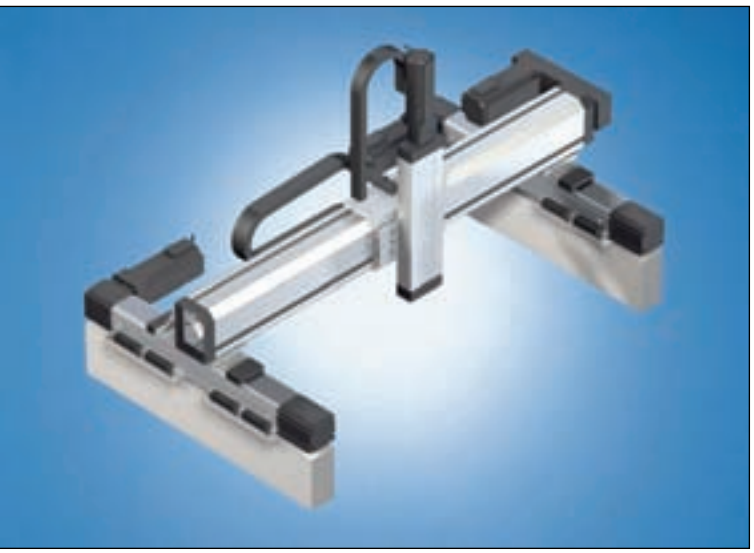
Conference Registration:
Before August 29–
One Day $395
Two Days $595
Three Days $745
Four Days $795

After August 29–
One Day $495
Two Days $745
Three Days $895
Four Days $945

Product Preview

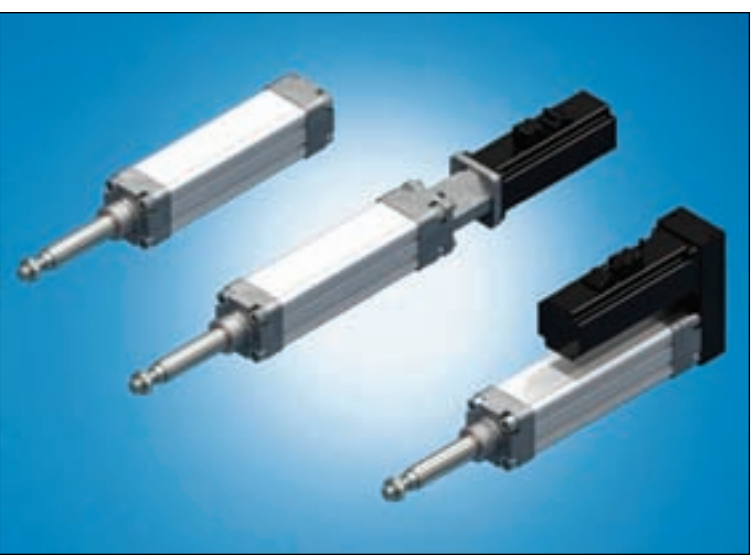
Take a sneak-peek at what a few power transmission-related companies will have on display at the exhibition.

Bosch-Rexroth Corp: Booth 105, 305
Bridge Modules Span Long Unsupported Lengths



The BKK and BKR Bridge Modules are an expansion of Rexroth's linear modules. The aluminum extruded profile provides high torque stiffness to reduce deflection where the module is not completely supported. Y axes for gantry systems are an example of this where the bridge modules replace the configuration of parallel linear modules.

Inside the aluminum extrusion are two ball rail systems with four steel runner blocks at a 90-degree angle to increase load capacity. They are completely enclosed with an aluminum cover and polyurethane sealing strips. The BKR belt-driven model comes in length variations up to 8,000 mm. The BKK ball screw-driven model is suitable for higher thrust forces and lengths up to 5,500 mm, and it is available with ball screw supports for even higher speeds at longer lengths.



Also on display at the Bosch Rexroth booth will be a TSsolar Conveyor, a technology recently released for solar cell manufacturing. The conveyor line provides gentle material flow, clean, particulate-free operation and the capability to operate in temperatures up to 200°C.

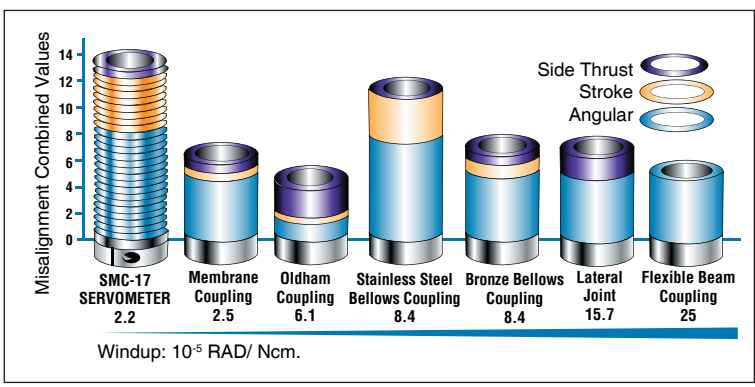
Electromechanical cylinders will also be at the Rexroth booth. These provide high thrust, high-speed capabilities flexibly and with control to applications that use hydraulic or pneumatic cylinders. They are corrosion-resistant and suited for packaging and material handling applications as well as assembly and robotics, wood manufacturing, metal forming, plastics, paper converting and web handling, according to the company's press release.

A ball screw actuator in the electromechanical cylinders eliminates stick-slip effects while providing precise positioning and high repeatability. They are more environmentally friendly than hydraulics due to the level of efficiency and low-maintenance they offer. The cylinders come in six sizes from 32 mm to 100 with stroke lengths up to 2,000 mm and up to 1.6 m/sec in speed. They have the same connection dimensions as an ISO 15552 pneumatic cylinder, so they can be placed into traditional pneumatic applications. They allow for direct and parallel motor mounting, several rod end, flange, trunnion and clevis mounting options as well as step and servo motor options.

For more information:

Bosch Rexroth Corp.
5150 Prarie Stone Parkway
Hoffman Estates, IL 60192
Phone: (973) 785-4630
www.boschrexroth-us.com

Servometer: Booth 4742
Electrodeposited Bellows Provide High-Frequency Interconnection



The PMG electrodeposited bellows are an alternative to spring-loaded type test pins in high-frequency test applications. The electro-deposition process allows for bellows to be made of different materials including gold, nickel, copper and silver, which increases the bellows' conductivity and provides

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low DC resistance with minimal insertion loss. They are rated for a maximum current of 4 amps and are capable of lifetime spring and force repeatability (108 cycles).

Servometer's PMG bellows perform in long-life applications with flexibility, precision and maximum sealing. They offer one-piece construction and have no moving parts, so they prevent resistance or impedance factors. They are available as small as 0.5 mm diameters with .008 mm walls for PCB applications, and shape options are unlimited. The thin walls lower rotational inertia, which results in minimal drive power losses during intermittent operation. The electro-deposition's geometric construction allows the bellows to fit more convolutions in a given length than hydro-formed bellows, according to the company.

The concentricity of the electrodeposited bellows is held to within 12.7 µm. They exhibit no cyclic speed variation through 360 degrees rotation, and the bellows' can potentially last for 108 life cycles. Servometer can coat the bellows with noise reduction materials if necessary. The bellows are ROHS compliant and can be used in instrumentation, laser, medical, aerospace, solar, semiconductor, vacuum and oil machinery applications.

For more information:

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Automation Direct: Booth 4906
IronHorse Worm Gearboxes Prevent Leakage

The power transmission product line from Automation Direct has expanded to include the IronHorse gearboxes in four ratios from 5:1 to 60:1. They are manufactured from one-piece, cast-iron housings. The main gear is made from aluminum bronze casting—instead of phosphor, which is less rigid— and they use a C-flange input and carbon steel shaft with either right-hand or dual-shaft output. The one-piece output shaft hub secures the output shaft bearing, and both shaft ends have double bearing sets. Double-lipped embedded oil seals thwart leaking from occurring; the gearboxes are capable of altering drive direction by 90 degrees and can be mounted in any direction, except motor-up. Applications include reducing output speed, increasing torque, changing drive direction and running two loads from one motor, according to the company's press release.

ProSense pressure sensors will also be on hand at the Automotion Direct booth. They are vacuum pressure sensors, an alternative to mechanical switches, and they monitor system pressure in hydraulic and pneumatic applications. They use capacitive sensing and strain gauge technologies.

The stainless-steel housed PTD series vacuum transmitters convert system pressure into an analog output signal. Output options include 4 to 20mA or 0 to 10 volts and offer up to 1,000 psi. They have a flexible film circuit, and a ceramic sensing element for overpressure protection.

The PSD series electronic pressure switches perceive gas and liquid pressure up to 5,800 psi using a 316 stainless steel process connection and gas-tight measuring cell. The sensors can adjust without system pressure or supply voltage, so calibration is unnecessary. The PSD series has a switching life of 50 million cycles and features a dual-switching DC output.

For more information:

Automation Direct
3505 Hutchinson Road
Cumming, GA 30040
Phone: (770) 889-2858
Fax: (770) 889-7876
www.automationdirect.com

Baldor Electric Company: Booth 4117
C-Face Gearmotor Employs Energy Efficiently

The Dodge Quantis Gold C-face gearmotor combines the Baldor Reliance Super-E Premium Efficient Motor with the Quantis in-line helical (IHL) or right angle helical bevel (RHB) reducers to produce a complete gearmotor package that maximizes energy efficiency. Configurations up to 10 hp are available.

The Quantis ILH and RHB features include NEMA clamp-collar design, foot-mounted housing, standard inch output shafts, nitrile output and output lip seals, A1 mounting and Mobilegear 600 XP 220 oil. The RHB unit also offers flange mounted housing configurations and tapered hollow bores with twin-tapered bushings, according to the company's press release.

The Baldor Reliance Super-E Premium Efficient Motors are constructed with rolled steel and cast iron, and they feature TEFC enclosures, 1,800 rpm, 60 Hz and voltages ranging from 230 to 460 V. They are inverter capable for variable-torque inverter drives and 20:1 constant-torque applications. They were designed to perform in dusty, dirty and humid environments.

Baldor is also exhibiting a high-power brushless servo motor. The BSM132 runs up to 20 hp with the option of blower cooling, allowing up to 34 hp. Speed up to 5,000 rpm is possible, and the servo motors have continuous stall torque from 70 Nm to 120 Nm. The BSM132 is sealed against dust and low-pressure water jets. Feedback includes resolver or absolute encoder and a double-insulated, multicoated magnet wire for reliability. Applications include those that require high-power, accurate positioning such as packaging, food processing, beverages, material handling, shearing and printing.

For more information:

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American Precision Prototyping: Booth 4335
Accura Materials Simulate Molded Plastic

Stereolithography (SLA) rapid prototyping and manufacturing processes by American Precision Prototyping (APP) solely use the Accura family of materials from industry partner 3D Systems to create custom motion control parts. APP will have various parts on hand at the show that were produced with these materials by the SLA process including cast urethanes, rapid metal castings and CNC parts.

The Accura Xtreme material is the most recent addition. It resembles injection molded polypropylene, ABS and polycarbonate, but molding, tooling, dies and traditional machining is replaced by the SLA process. Accura Xtreme is durable and resists impact and thermal resistance over 60°C. They are suited for assembly applications, including various fit, form and function parts. The Accura Bluestone material is suited for motorsport and aerospace applications because it resists humidity and deflects high heat.

"Accura materials are the broadest range of materials available and meet the demands of virtually any application," says Jason Dickman, APP president. "I have been in the RP (rapid prototyping) industry for many years and have witnessed firsthand the evolution of Stereolithography materials from the early acrylate materials that yielded inaccurate, brittle parts to those today that are closer to production-grade materials than ever before."

For more information:

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