

# Canadian PROCESS

# EQUIPMENT & CONTROL NEWS

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## Maintenance & Safety

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### INNOVATIVE PRODUCTS REDUCE POWER CONSUMPTION

The Sirius Innovations line recently introduced by Siemens Canada Limited comes in two frame sizes up to 25 hp and incorporates sustainable elements that make more efficient use of space and simplify assembly, while reducing power consumption. Increased power performance up to 42 A in a reduced 45 mm footprint is one key benefit to the space savings provided by Sirius Innovations products. Additionally, Sirius Innovations breaks new ground with the inclusion of IO-Link communication modules that dramatically reduce control wiring and quickly snap onto contactors of direct, reversing and wye-delta motor starters up to 30 hp. The IO-Link modules also allow status and diagnostic data communication to the Totally Integrated Automation (TIA) platform, such as programmable logic controllers. AS-Interface communication modules for motor starters have also been added to the product range. The Sirius Innovations product line includes an expansion of termination options with the introduction of ring-lug terminal versions. The ring-lug terminals enable Siemens to access new markets like semiconductors where the industry has a standard requirement to use ring-lug terminals. For more information contact [don.liddle@siemens.com](mailto:don.liddle@siemens.com)



Siemens

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### CONTROLS REDUCE COSTS, IMPROVE PROCESS QUALITY

MicroMod Automation and Controls, Inc. has announced releasing its WaterPAK Series of pre-programmed controls for aeration, filter, and pump control. Designed to be affordable to plants processing under 7 MGD, WaterPAK can also benefit larger plants looking to expand or improve their controls in increments, or on a maintenance budget. The WaterPAK Series includes AeroPAK dissolved oxygen control with automatic lead/lag function to ensure constant aeration and reduce equipment wear; PumpPAK for level or pressure control using constant or variable-speed pumps; and FilterPAK that provides filter control and scheduled backwash based on head loss, turbidity, or filter run time with manual override and full operator intervention capability. MicroMod Automation and Controls is known in the industry to have superior application knowledge and robust, easy-to-use control packages that provide the security of local operation and control combined with the power of centralized operation and information management. WaterPAK brings all control together with one manufacturer, in one location, with manual or automatic control. The WaterPAK Series will produce savings for customers through reduced installation and operating costs, improved process quality and lower energy use at a pre-packaged price that makes return on investment calculations easy to justify. For more information contact [sales@micromod.com](mailto:sales@micromod.com)

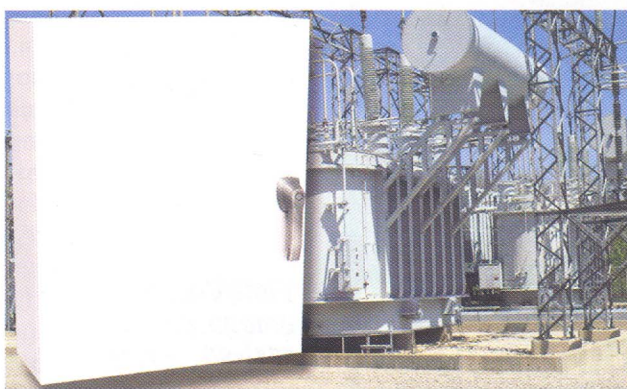


MicroMod

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### ENCLOSURES ENSURE SUPERIOR CORROSION RESISTANCE

Designed for use in harsh industrial environments where electronic or electrical equipment, electrical switchgear, hydraulics or pneumatic controllers must be isolated from oil, water and dust, Hammond Manufacturing's Eclipse Series of wall mount enclosures is fabricated from type 304 stainless steel for strength, durability and superior corrosion resistance. The enclosures are finished throughout with a durable RAL 9003 White powder coat which significantly reduces solar heat gain and gives an attractive appearance that complements any contemporary high tech facility. Complying to NEMA 3R, 4, 4X, 12 and 13 and IEC60529 IP66, the Eclipse Series provides a stylish and functional housing, available in 10 sizes from 24 x 24 x 8 inches to 60 x 36 x 12 inches as standard. A formed structure with smooth continuous seams, hidden hinges and the high quality paint finish enhance the contemporary design, as does the attractive stainless steel handle that provides three-point locking. The door seal is a seamless poured-in-place gasket, and for additional protection against the ingress of flowing liquids, a formed lip further reduces the possibility of liquids entering the housing. A large selection of standard accessories is available. To prevent condensation, heaters and thermostats can be fitted; breathers equalize pressure differentials, filter fans can provide additional cooling; and more. For more information contact [klivingston@hammfg.com](mailto:klivingston@hammfg.com)

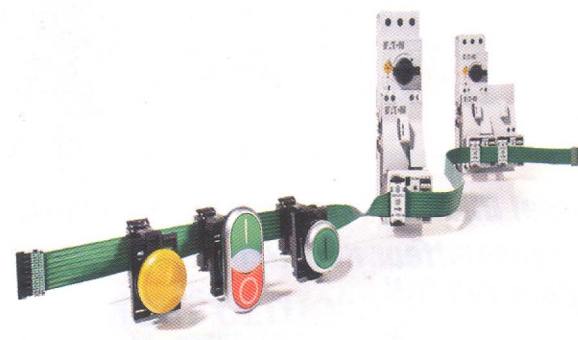


Hammond Manufacturing

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### WIRING SOLUTION INTRODUCED TO CANADIAN MARKET

Eaton is introducing the SmartWire-DT panel wiring solution into the Canadian market. Already available in Europe and the US, the system is designed to reduce panel wiring complexity, improve system reliability, save installation time and reduce panel space. Transforming the way original equipment manufacturers (OEMs) build control panels, the solution replaces the myriad of wires found in the control circuit into a single cable, connecting motor control components to customers' programmable logic controllers (PLCs). SmartWire-DT reduces panel complexity by consolidating complex circuit wiring into a single, durable eight-pole cable. Connecting is as simple as adjust, crimp and connect. Beyond simplifying the wiring process, SmartWire-DT streamlines testing, and reduces commissioning and troubleshooting, saving time and money. It will improve system reliability and the SmartWire-DT system addresses a critical concern for panel builders by dramatically reducing the wiring effort required to build panels, as it eliminates the time needed to cut, strip, mark, bundle, and check numerous individual wires. The system reduces panel wiring complexity and assembly labour time, accelerates start-up commissioning processes, and provides extensive run-time diagnostics. It links standard motor control components within the panel, separate distribution panels or remote control stations, and creates communications enabled devices. For more information contact [KellyJasko@eaton.com](mailto:KellyJasko@eaton.com)



Eaton

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Protecting Equipment Supplement Inside

Canadian  
The 1 day show that goes to your neighborhood produced by cpecn magazine  
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St. John's, NL - September 19  
More details on Page 34  
or go to  
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## Switch To Rotary Batch Mixer Cuts Costs, Boosts Output At Food Ingredient Processor

Installing a new rotary batch mixer has allowed Quality Powder Ltd., Newmarket, ON to reduce maintenance costs dramatically while improving productivity.

Quality custom blends a variety of key food ingredients for one of Canada's largest makers of gum-based ingredients used in packaged foods such as hamburger patties, breads, fish, chicken and dairy products.

In 2010, Quality mixed more than 2755 tons (2500 metric tonnes) of ingredients using a ribbon blender, which did a sufficient job of blending, but presented a number of problems that management solved by converting to a rotary batch mixer.

### Maintenance Problems

"We were spending significant time maintaining the ribbon blender," said Quality President Charles B. Abarado. "The shaft seals come in contact with powders, some of which corrode or dry-out the seals, requiring seal replacement every three or four weeks. In addition, the seals contaminate the ingredients."

"As our volume increased, so did the amount of maintenance required. At the same time, we began to increase the number of product changeovers. Every time, we had to spend as much as 1-1/2 hours just to make a cleanout because residual powder would settle at the bottom of the blender's trough."



Upon discharge, the rotary batch mixer evacuates completely with little or no residual, allowing, fast thorough cleaning between batches.

### Meeting Customer Requirements

"When our customer decided to increase volume without outsourcing to multiple toll houses, we decided to expand with them," Abarado explained.

Quality works closely with its customer to increase efficiencies. "We blend special types of gums that are used in prepared foods as binders and stabilizers," said Abarado.

"It's customized, so we blend formulas that can include anywhere from two up to 11 types of ingredients

in one batch. Particle sizes of raw materials range from 60 to 300 mesh (250 to 450 microns), and bulk densities range from 30 to 50 lb/cu. ft."

Raw materials typically arrive at Quality's 16,000 sq. ft. facility in 55 lb. bags. After blending they are packaged in 55 lb. bags or in 2200 lb. bulk bags for shipment to the customer.

### Growing Pains Cured With New Blender

"We were looking for a way to eliminate maintenance related to seals, and time related to manually removing 15 or 20 kg (33.7 or 40 lb) of residual material every time we blended a different formulation or shut the equipment down," said Abarado.

"On some days, our workers have a minimum required output. If there was a product changeover during a shift, they lost an hour or more doing a cleanout, sweeping, vacuuming and making sure that residual material was removed from the ribbon blender."

"When we decided to increase our capacity we specified a Munson Model 700 stainless steel rotary batch mixer with a 140 cu. ft. capacity. It accommodates our batch weights of 5500 lb., in excess of what a cone blender can handle."

"Because the drum rotates on external trunnion rings, there is no internal shaft with seals immersed in the material, eliminating a maintenance and cross-contamination problem. In addition, the mixer evacuates upon discharge with little or no residual, allowing rapid, thorough cleaning."

Quality received the mixer in January 2011 and performed its own installation. "We just mounted it on our own structure, connected the power and we were ready to go. We had no problems with startup; everything internally on the machine was connected and we just began blending. The operation of the unit is actually very easy," said Abarado.

### Cleaner, Faster Production

"Each batch blends in about three minutes and we don't have to worry about leftover residue. It's a complete cleanout because the rotating drum's internal mixing flights and lifters direct material towards the discharge gate, which discharges 100% of the batch."

"We also wanted a better product blend that is more homogenized," Abarado said.

Continuous rotation throughout the entire blending cycle assures that all materials remain in motion, preventing segregation in batches of varying material densities.

The machine tumbles, turns, cuts and folds the material in a four-way mixing action that produces a homogeneous blend with no segregation upon discharge.

Quality ordered the machine with two doors and a drain for unrestricted access to internal surfaces during washouts. "After a batch is blended, we clean the machine and proceed directly to blend the next batch. We

don't have to wash out after every batch, even though the ingredients vary according to the customer specifications. If we do need a washout, the drain makes it easy."

The absence of residual material, coupled with dual, clean-out doors allows sanitizing in minutes, preventing cross-contamination between changeovers.

"Food safety-wise, it's well compliant," said Abarado.

Quality ordered the standard 80-grit, #2B mill finish. All product contact surfaces are stainless steel. Internal welds have a minimum 1/4 inch (4.23 mm) radius to eliminate corners, cracks and crevices to avoid material entrapment.

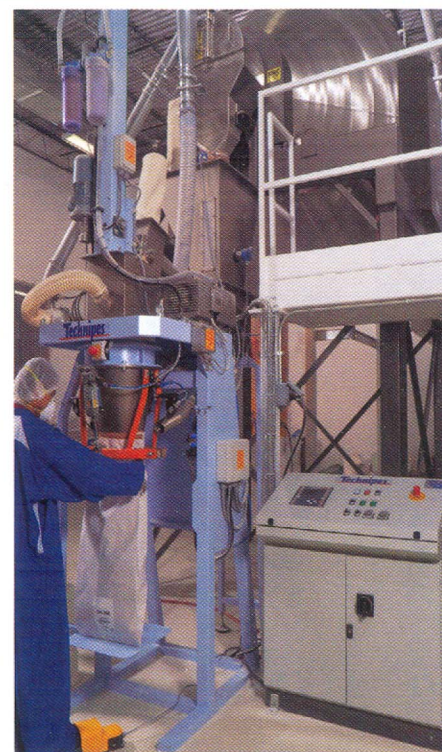
The firm also specified an internal spray-line coating option for batches requiring liquids or moisturized air. Although the old ribbon blender and the new rotary mixer have the same capacity, the ribbon unit requires a 50 hp (37.3 kW) electric motor versus 20 hp (14.9 kW) for the rotary mixer, substantially reducing energy usage. "Our plant personnel prefer to work on the Munson line due to reduced labor and approximately one-sixth the maintenance of the ribbon blender line," said Abarado.

Added Abarado, "Because the rotary mixer also delivers greater batch uniformity, we use it to blend all of our food products for which homogeneity is critical. As a result we've had good customer feedback since we installed it. The machine saves Quality Powder a considerable amount of time on maintenance and has improved our critical quality control points. It should last us 30 to 50 years...at least," Abarado said.

This article was supplied by Quality Powder Ltd., Newmarket, ON. For more information visit [www.quality-powder.com](http://www.quality-powder.com)

### Quality Powder

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Powders discharge from the mixer into the hopper and then to the bagging machine, which fills 55 lb. bags or 2,200 lb. bulk bags.

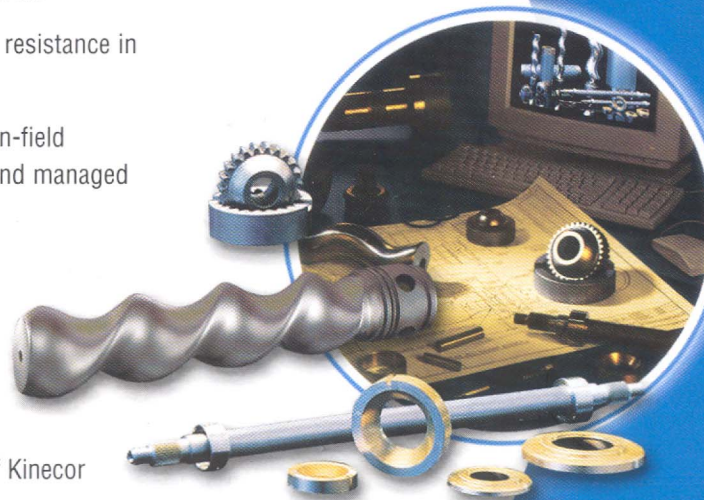
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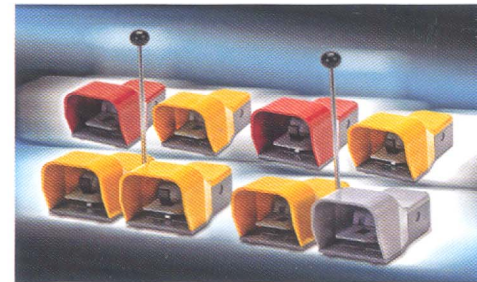
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## FOOT SWITCH LINE EXTENDED



AutomationDirect has added metal guard foot switches to its line of product offerings. These switches, in single and double units, are designed with die-cast aluminum foot cover guards and heavy-duty ABS plastic bases and pedals. Ideal for machines such as shearing and spinning machines, lathes, wrapping machines and riveting machines and presses, the foot switches are available in three operational formats: safety anti-trip, free moving and free moving maintained. The IP65-rated foot switches feature two normally-open and two normally-closed contacts. For more information contact [tjohns@Automationdirect.com](mailto:tjohns@Automationdirect.com)

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