July 2014
GRAND VIEW MEDIA GROUP

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SOLUTIONS FOR THE PROCESS INDUSTRIES

Piping, Tubing, Hoses & Fittings

Chemical Hose

The Conti®Chem product line is the latest addition to the ContiTech industrial hose portfolio. Conti®Chem hoses are manufactured with the highest quality elastomeric materials. These hoses are produced to exceed the requirements of the most demanding applications in the chemical, pharmaceutical and oil industries. Conti®Chem Premium is a universal hose within the portfolio with a smooth and conductive PTFE tube, as well as EPDM cover. It is resistant to all commonly used chemicals and meets EN 12115:2011 requirements. Conti®Chem Premium can withstand burst pressures greater than 64 bar and temperatures ranging from -86 degrees F to up to 302 F. **For more information on piping, tubing, hoses & fittings, turn to page 6.**

ContiTech Fluid Technology
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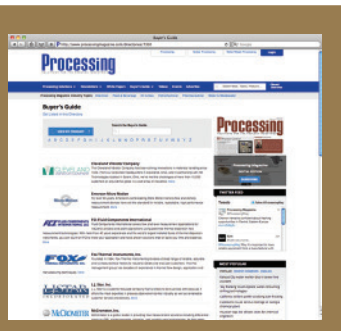
Online Exclusive



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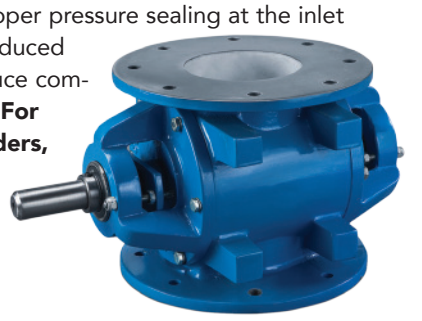
Rotary Feeder Valves for Bulk Material Handling Processes

The MD Series of rotary feeder valves from ACS Valves offers tangible operating efficiency advantages and long-term production and maintenance savings. The MD Series rotary feeders are constructed with an eight-vane rotary valve that ensures proper pressure sealing at the inlet and outlet flange. The optimal seal produced by an MD Series rotary feeder can reduce compressed air loss by up to 28 CFM/year. **For more information on weighers & feeders, turn to page 34.**



ACS Valves
www.acsvalves.com
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Featured Article

Understand the importance of water/steam chemistry

Many thousands of industrial plants around the world generate high-pressure steam for process applications and power generation. Yet, water/steam monitoring and control often take a back seat to process operations, even though corrosion, scaling and other problems caused by poor water/steam chemistry can cost a plant millions of dollars. Plant operators, engineers and technical personnel should be alert to critical issues regarding water/steam quality. **Read more on page 12.**

Robotic Packaging Solutions

Delfi, used for feed placing into primary packaging, and Paloma, used for placing into primary or secondary packaging, are vision-guided solutions that feature GD33 Delta robot in open-frame design. With its 3-kilo payload capability and speed, the robot promotes productivity and application versatility. It can integrate with the Gemini 4 control and software platform. Access to main components facilitates maintenance. Hygienic design with stainless steel frame option is also available. **For more information on bags, bagging & packaging, turn to page 32.**

Bosch Packaging Technology
www.boschpackaging.com
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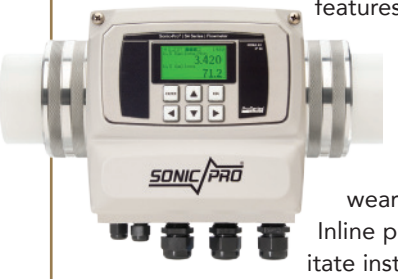
Inline Ultrasonic Flowmeter

The Sonic-Pro® S4 inline ultrasonic flowmeter features flow measurement technology with no moving parts, and no internal liners to wear out. The S4 Inline pipe fittings facilitate installation of the meter. The flowmeter uses the Transit Time method to measure water flow. A special low power mode permits operation with battery for limited functions. Optional advanced data communication protocols include Industrial Ethernet, Modbus RTU, Modbus TCP, PROFIBUS TPV1 and PROFINET. **For more information on water & wastewater, turn to page 28.**



Blue-White Industries
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How to comply with the latest GHS labeling guidelines

Entire-label, on-demand printing in red and black will be the norm by 2015

By Chris Cocanig

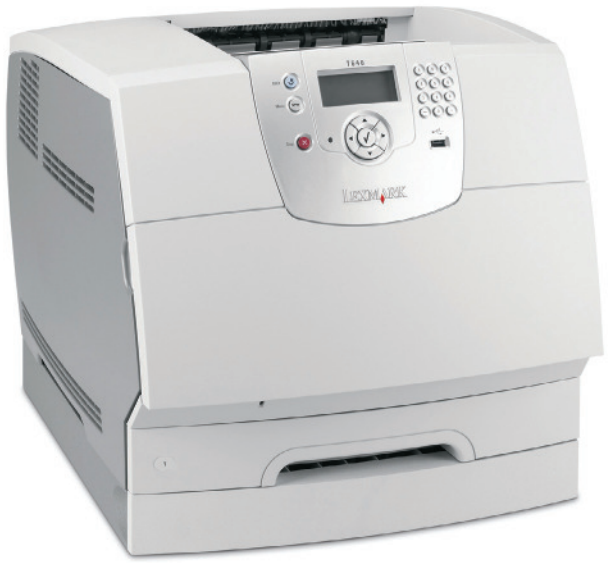
Chemical labeling requirements will undergo extensive changes the next few years due to updates to the "Globally Harmonized System of Classification and Labeling of Chemicals," or GHS. Any chemical maker, supplier or user must comply with GHS requirements, which cover all hazardous chemical substances, dilute solutions and mixtures.

GHS regulation components include hazard classification, modified safety data sheets, and compliant labels and formats. Setting up a new labeling system often requires additional planning, so it's important not to underestimate this aspect of GHS compliance.

Compliant labels have several elements, including the signal word, symbols (hazard pictogram), product name or identifier, hazard statements and precautionary statements.

Previously, any color portion of a hazardous warning label could be preprinted and shipped to manufacturers. They could then print key information in black monochrome atop the color graphics. Now, however, the GHS guidelines make this method impractical in most applications. By June 2015, most companies will have to print entire labels on-demand with two colors: red and black.

For most companies, this means reinventing their current printing process with all new equipment and label stock to add color capabilities. This process can be somewhat daunting, as there are many choices for matching appropriate certified label media and printer types in a given manufacturing environment.



Previously, color portions of a hazardous warning label could be preprinted. Soon that will no longer the case.

However, companies adopting the new guidelines have also the opportunity to simultaneously reduce printing costs and enjoy long-term savings, while improving safety, the ultimate goal of the new standards. The new label format can also be used to enhance brand identity.

Updated advice

Companies that have had the same printing solutions for years may not know how to get started on making new printing decisions. There are a number of factors and considerations that should go into this process. Here are some to keep in mind.

Start the process early. All new labels created on or after June 1, 2015, are required to be in compliance with the new GHS guidelines. Don't underestimate the timeline necessary for implementing label changes. For complex manufacturing operations, this process can take up to nine months. Even for smaller companies with simpler infrastructures, it typically still takes at least three months to evaluate, install and test a new printer system.

Evaluate Printing Needs. The first step in updating a printing solution is to evaluate your particular label needs. Companies should consider the following:

Labels may be applied to virtually any container, such as boxes, metal, plastic drums, bottles and cartons. Some types of label media are better suited for certain types of containers.

Containers requiring labels can range from small bottles to 55-gallon drums, vastly changing how large a label should be. Companies should take container size into account when

evaluating label needs. This may also present an opportunity to save money, as businesses may be able to reduce the size of their current one-size-fits-all labels in exchange for ones that are only as big as necessary for each given container. Likewise, companies that require several types of labels — predominantly based on the number of different products offered — may be able to optimize their labels for added savings.

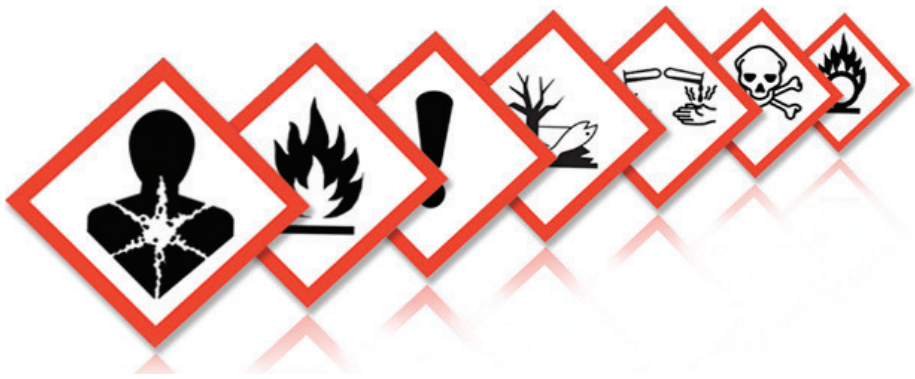
A small company may have just a few printers, while the largest companies require hundreds of printers running constantly. Printing and printer volume can alter the selection and estimated costs of purchasing and using each type of printer.

A printing solution should take into account ambient factors such as temperature and moisture levels in the containers' destinations. Labels for certain products also need to have exceptional chemical and abrasion resistance. Some labels are more durable than others in harsh conditions.

Consider the law

Companies should, of course, consider what they are required by law to print on their labels, such as warnings, symbols and identifiers. These factors can govern other label considerations, like size. In addition, some companies may want to include color logos or other graphical elements on each label for brand identity. Consider not only their current needs but also any changes they may want to implement in the future. Graphical elements generally require a printer capable of printing more than the standard two colors necessary for the GHS requirements.

Most manufacturers have printing needs aside from GHS-compliant labels. For example, not all chemicals require GHS-compliant labels but may still require a shipping label. Multipurpose printers, with additional capabilities such as color options, satisfy a range of printing needs.



With the right printing solution, costs should average about $0.20 per label and $0.05 per image.

Take into consideration how printing needs are currently handled by examining existing labels and content and layout components that will be carried over to the new labeling system. Businesses should also consider their current host devices to determine whether they currently employ SAP, Oracle or another enterprise system to feed data to the label printer. Some GHS-compliant equipment may not work as smoothly with existing ERP systems, especially if a proprietary system is in place. Solutions providers like Peak-Ryzex can make recommendations for equipment that's compatible with existing host devices, or suggest appropriate upgrades for better and more comprehensive solutions if they are available.

Chemical Industry

Evaluate Printing Options

GHS label printing options include ink jet, thermal and laser printers. Each has benefits that vary in importance based on individual needs.

Ink jet printers:

- have simple design and low initial cost.
- include narrow and wide models, to satisfy more applications.
- can produce roll output for automatic applicator use.
- have perforated fanfold labels to fold and stack neatly in a fan shape, which means less refilling for high-output printing and less waste in transition.
- are compatible with Windows drivers.
- use fixed-price ink.
- provide the overall lowest-cost solution.

Thermal printers:

- have high-volume options that print black and red at the same time.
- are ideal for on-demand printing, eliminating maintenance of multiple pre-printed labels.
- are linked to lower label-stock costs.
- have roll output for use with automatic applicators.
- print longer labels than standard laser printers.
- have ribbon-saver on the red ribbons.

Laser printers:

- print in full color and without limit meet GHS Color Pictogram requirements.
- can PMS color-match for DOT and other regulatory requirements.
- reduce the number of managed label stocks.
- reduce label sheets costs since preprinted colors are unnecessary.
- entail lower up-front equipment purchases.

Estimate Costs. Total cost of ownership is an important factor to evaluate. Companies should scrutinize not only the potential cost of each label, but also the cost of each individual printed image. Costs can often reach up to $0.50 per label. But with the right printing solution, this may be reduced to just $0.20 per label and $0.05 per image.

Take a Holistic Approach. Companies should look at label-printing as an entire, holistic process rather than considering only certain aspects of printing solutions. It's often more beneficial to use one partner for all printing needs rather than having several entities involved. This ensures that all the components work well together. It also ensures consistent quality, results and good customer service. Companies should remember to start early and be comprehensive in their methodology. This will result in a timely and precise system capable of meeting all GHS requirements.

Chris Cocanig, GHS business development manager at Peak Ryzek, Inc., has been in the Auto ID business for more than 20 years. His degree in electrical engineering is from DeVry University. He has worked at Wallace Computer Services, Moore-Wallace, RR Donnelly and Peak-Ryzex in several management capacities. Cocanig has spent the majority of his career analyzing print operations and developing real-world usable solutions to a wide variety of printing challenges.

Peak-Ryzex, Inc., Columbia, Maryland, is a systems integrator of supply chain and inventory management solutions and services.

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