Valves

FEATURE REPORTS

Summary: Throttling valves are common pieces of equipment in the chemical process industries (CPI), and three networking technologies are commonly used to interface between the valve and the automation system. The three technologies are the following: 4–20-mA with HART, Fieldbus and wireless. This article will provide information on each of these networking options and on how to select among them for different processing situations. In addition, it will discuss emerging technologies that can improve control performance.

Related equipment and services: All types of valves used in the CPI, as well as related equipment, such as sensors, actuators and seals. Automation systems and related wiring, software and networking equipment

Relevant industries: All sectors of the CPI use valves

Evaporation Technology

FEATURE REPORTS

Summary: Evaporation is widely used in a number of different sectors of the CPI. In the fine chemicals and pharmaceutical industries, it is used to recover solvents or concentrate solutions. Evaporation technology is also used in wastewater treatment, desalination and zero-liquid-discharge plants. And there are many applications of evaporation technology in the food-and-beverage, pulp-and-paper, and mining sectors. This feature report will present tips for the proper operation and maintenance of evaporators.

Related equipment and services: All types of evaporators, heaters and condensers, heat exchangers, instrumentation, automation and control and more

Relevant industries: Chemicals, pharmaceuticals, food and beverages, pulp and paper, mining and wastewater treatment

Materials Characterization and Testing

NEWSFRONTS

Summary: Inspection and testing of materials, especially non-destructive testing, is essential not only for understanding the performance properties of materials, but also for maintenance of plant equipment, including pipelines and tanks. This Newsfront will examine some advances in the field of materials testing techniques, including a look at special non-destructive testing methods for composites, new statistical characterization techniques and more.

Related equipment and services: Non-destructive testing services and associated equipment, including spectrometers, gages, detectors, analyzers and other analytical equipment, thermal cameras, temperature detectors and so on

Relevant industries: All sectors of the CPI require materials characterization and testing.

Editorial material for consideration should be sent to associate editor, Mary Page (mbailey@chemengonline.com)
Maintenance & Reliability Equipment

NEWSFRONTS

Summary: Keeping plants operating reliably is important for “the bottom line.” Maintenance is one of the ways to prevent unscheduled downtime with the associated losses in production and revenue. This month’s equipment Newsfront will present the trends and new technologies used for maintenance and reliability.

Related equipment and services: Tools and analyzers, diagnostics instrumentation, vibration analyzers, corrosion monitors, Industry 4.0 and Internet of Things, computerized maintenance systems and software, and more

Relevant industries: All sectors of the CPI, especially petroleum refining, petrochemicals and other large-scale production complexes

Editorial material for consideration should be sent to contributing editor, Joy LePree (jlepree@chemengonline.com)

Corrosion

FACTS AT YOUR FINGERTIPS

Summary: Corrosion of equipment is a significant and ongoing challenge in most, if not all, CPI sectors. This one-page reference will provide information on techniques for corrosion sampling and evaluation.

Related equipment and services: Corrosion-resistant materials of construction, corrosion inhibitors, corrosion-resistant coatings

Relevant industries: Corrosion is a concern for all aspects of the CPI.

Analyzers

FOCUS

Summary: This product roundup will showcase an array of products that are available for the monitoring and control of such key operating parameters as pressure, temperature, level and flow, and will also feature analyzers that monitor the presence of various chemicals, compounds, gases and particulate matter, alarm options and more.

Related equipment and services: Analyzers for temperature, pressure, flow, level and chemical composition, gages, transmitters and other analysis equipment and accessories

Relevant industries: All segments of the CPI use analyzers.

Editorial material for consideration should be sent to contributing editor, Suzanne Shelley (sshelley@chemengonline.com)
Estimating Fugitive Emissions and Potential Impact During Conceptual Design

**ENGINEERING PRACTICE**

**Summary:** The control of unwanted emissions of volatile organic compounds (VOCs) is an essential aspect of CPI design and operation. Fugitive emissions that result from unanticipated or spurious leaks impact not only the environment but plant efficiency and profitability, as well. This article provides guidance for estimating potential fugitive emissions and resulting potential chemical concentrations that could result from proposed processes or designs during the conceptual design and front end engineering design (FEED) stages, and using the resulting insight to estimate the associated health risk for the proposed design at any stage. Such risk estimation is vital in predicting the potential adverse health impact a worker could experience, should fugitive emissions be released from the proposed process or design.

**Related equipment and services:** Vessels, piping, seals, gaskets, valves, pumps, flanges, distillation columns and equipment used for air-pollution control

**Relevant industries:** All sectors of the CPI face the potential for fugitive emissions.

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Dust control

**SOLIDS PROCESSING**

**Summary:** Controlling dust is a pervasive challenge in bulk-material handling operations because of its potential safety and environmental hazards, as well as for possible processing implications for the dust. Three general approaches exist to controlling dust in CPI operations: prevention, containment and suppression. This article reviews several important technologies for each of the three approaches.

**Related equipment and services:** Any dust-collection equipment, including baghouses, dust collectors, electrostatic precipitators, filters, cyclones, as well as dust suppression devices and solids-handling equipment designed to prevent dust formation

**Relevant industries:** Anywhere solids are handled, including food, fertilizers, pharmaceuticals, chemicals, cosmetics, mining and others.

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Reestablishing Course

**YOU AND YOUR JOB**

**Summary:** The corporate world can be challenging, and employment reductions must sometimes be made to get a business back on track. Affected employees may have a difficult time trying to reestablish themselves and maintain a desired career path. This situation is particularly difficult for mature professionals who face the added stigma of being viewed as past prime. The authors of this paper simultaneously faced job loss situations, but the outcomes were substantially different and both positive. This article looks at their experiences as options for mature workers facing this traumatic situation and reestablishing course.

**Related equipment and services:** Job search firms, career advisers, human resources services, resume-writing services

**Relevant industries:** This topic is relevant to all sectors of the CPI.

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Marketing and Advertising Tools

In addition to providing you with the next issue’s editorial upcomings, please see the marketing articles and tips below to help make your job easier!

- Why B2B Brands Are Focused on ABM
- 7 Traits of Outstanding B2B Marketers
- Do you Know the Best Video Ad Length for Facebook?

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Editorial Submissions

**Editorial submissions and guidelines**

For product-related news, please send press releases to newproducts@chemengonline.com

For news of a business nature (project wins, mergers and acquisitions, personnel changes, and other business deals and alliances), the comparative address is biznews@chemengonline.com

To submit a manuscript, please use manuscripts@chemengonline.com
Valve World
SHOW PREVIEW

Summary: The entire spectrum of industrial valves will be covered by the Valve World Exposition from November 29th to December 1st in Düsseldorf, Germany. More than 650 exhibitors from 39 countries will be occupying three halls of the Düsseldorf fairgrounds, with products ranging from valves, valve components and parts, actuator drives and position controllers, compressors, engineering services and software. The November issue will feature a number of these products in a Show Preview.

Related equipment and services: All types of valves, actuators, controllers, positioners, seals

Relevant industries: All sectors of the CPI use valves

Editorial submissions for consideration should be sent to senior editor Gerald Ondrey (gondrey@chemengonline.com)