



### FEATURE REPORTS

#### Understanding Fouling in Compact High-Efficiency, Heat Exchangers

**Summary:** This month's feature report will describe the basic types of fouling, parameters that influence fouling and problems associated with selecting too high of a fouling factor. Design factors, mitigation and monitoring will also be discussed.

**Related equipment and services:** Heat exchangers (plate and frame, welded-plate block, spiral, shell-in-tube, and more); heat-transfer design software

#### Understanding Flowmeters

**Summary:** One of the most critical measurements in the chemical processing industries (CPI) is rate of flow. Flow metering technologies fall into four classifications: velocity, inferential, positive displacement and mass. This article summarizes the considerations in selecting and applying these flowmeters, and provides examples of the kinds of flowmeters in each category.

**Related equipment and services:** All types of devices used to measure flow including: electromagnetic, vortex, thermal mass, turbine, Coriolis and ultrasonic flowmeters, orifice plates, Venturi meters, pitot tubes and rotameters

### FOCUS

#### Seals and Gaskets

**Summary:** A collection of short descriptions of various products and equipment related to seals and gaskets in the chemical process industries.

Submissions should be sent to associate editor Scott Jenkins (sjenkins@che.com).

**Related equipment and services:** O-rings, turbomachinery shaft seals, pressure seals, specialty polymer materials and elastomers with sealing applications

### NEWSFRONT

#### Information Resources for Chemical Engineers

**Summary:** This article will explore current trends in information sources for chemical engineers, and in how chemical engineers are searching and accessing information.

**Related equipment and services:** Chemical information websites, chemical database technology, library-related services, chemical engineering book publishers

#### Distillation trays and packing

**Summary:** This month's equipment newsfront will discuss the latest in trays and packing for distillation columns.

Editorial contributions should be sent to contributing editor Joy LePree (jlepree@che.com).

**Related equipment and services:** Distillation columns, trays, packing and other column inserts, simulation software for distillation

### FRACTIONATION COLUMN

**Summary:** This monthly column in CE is written by the technical director at Fractionation Research Inc., a consortium of end-users, engineering companies and distillation equipment providers that pool budgets on distillation research.

**Related equipment and services:** Distillation towers, trays and packings, tower scanning equipment and services

### SOLIDS PROCESSING

#### Milling and Grinding

**Summary:** This article will summarize ten common misconceptions that often lead to problems in milling and grinding operations.

**Related equipment and services:** Mills, grinders and related particle-sizing equipment



### FACTS AT YOUR FINGERTIPS

#### Pumps

**Summary:** This one-page reference sheet will cover calculations related to the flow profile of piston-type reciprocating pumps.

**Related equipment and services:** Reciprocating pumps, compressors, piston pumps, pump machinery

### ENVIRONMENTAL MANAGER

#### Industrial Control Cyber-Security: The Basics

**Summary:** Securing control systems in CPI facilities is gaining attention as threats become more sophisticated and overall plant security is in the spotlight. Threats can come from a wide variety of sources, and a basic understanding of cyber security can help engineers protect their control systems. This article describes basic concepts such as “defense in depth” and discusses emerging practices in this field.

**Related equipment and services:** All types of software and hardware used to secure industrial control systems. All types of devices used to secure the physical plant as well

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THE JULY ISSUE:

#### Feature Reports

Crystallization

Materials of Construction

#### Equipment Focus

Valves & Actuators

#### Equipment News Roundup

Hazardous Wastes

#### Facts at your Fingertips

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