

January Editorial Previews

FEATURE REPORTS

TOPIC: Suspension Rheology

SUMMARY: The physical properties of dispersed particles in suspensions — including particle size, particle-size distribution, concentration, electric charge, particle morphology and others — can strongly influence the overall rheological properties of the bulk suspension, and hence product behavior and functionality. This article examines the impact of particle loading on suspension viscosity and rheological behavior, and provides practical guidance for measuring rheological properties of suspensions as a path toward manipulating product performance.

RELATED EQUIPMENT AND SERVICES: Devices for measuring viscosity, instruments for determining particle size, morphology, distribution and concentration. Liquid mixing equipment designed for viscous materials

RELEVANT INDUSTRIES: Any sector or process that either handles suspensions or produces suspensions as a product. This is common throughout the chemical process industries (CPI), but suspensions are often seen in adhesives, pharmaceuticals, cosmetics, paints and others

TOPIC: Methane Processing

SUMMARY: With the increased availability of inexpensive natural gas, due to the “shale-gas boom,” the production of synthesis gas (syngas) from methane is becoming increasingly competitive in some regions of the world. This report will present the different options available for making syngas, including steam-methane reforming, autothermal reforming and others. Factors that are important for deciding on one technology over the others will also be discussed.

RELATED EQUIPMENT AND SERVICES: Engineering and construction, furnaces, air-separation technology, catalysts and all the associated equipment (pumps, valves, compressors, furnaces, refractory materials, control systems and so on).

RELEVANT INDUSTRIES: Syngas is the starting material for a number of basic chemicals, such as hydrogen, ammonia, methanol, liquid fuels and more. Important CPI sectors include bulk chemicals, fertilizers, petrochemicals and liquid fuel.

NEWSFRONTS

TOPIC: Industrial Enzymes

SUMMARY: Enzymes are growing in importance as industrial catalysts due to the lower operating conditions needed for catalyzing a reaction. Also, for some reactions, a biocatalyst can directly produce the product with the desired optical isomer, which is important for many pharmaceutical ingredients. At the same time, enzyme providers are pushing the application range of their products by developing new technologies based on exotic organisms that can thrive at extreme conditions of temperature, pressure, pH, salinity and so on. This month's Newsfront will present the latest developments in this field.

RELATED EQUIPMENT AND SERVICES: Enzymes and the associated equipment used to process, handle and use them (fermentation reactors, refrigeration units, catalyst supports and so on)

RELEVANT INDUSTRIES: Fine chemicals, pharmaceuticals, biotechnology, biomass processing, biofuels, foodstuffs, animal feed and detergents

TOPIC: Modular Construction

SUMMARY: Some processes are so common that standardized, pallet-mounted process units can be manufactured at specialized facilities, and then shipped directly to the production site where they can begin operating as soon as they are connected to the utilities. This month's Equipment Newsfront will present the latest developments in modular construction in the CPI.

RELATED EQUIPMENT AND SERVICES: Modular units for performing all types of unit operations (distillation, gas cleaning, coating, synthesis reactions and so on) along with the associated equipment (pumps, valves, instrumentation and control devices and so on)

RELEVANT INDUSTRIES: Fine chemicals, pharmaceuticals, biotechnology, industrial gases

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

WHY ADVERTISE?



Reach Decision Makers

- 76% of subscribers have taken action on advertisements
- 86% of subscribers are involved in purchasing products and services for their organization

Gain Endless Impressions

47% of subscribers pass *Chemical Engineering* to others



Partner with Editorial Excellence

The editors of *Chemical Engineering* magazine hold advanced educational degrees specifically relevant to the chemical processing industries.

Advertise in the CE FOCUS e-newsletter

January 15, 2015

This month's topic will cover **Safety**.

Don't miss this exclusive opportunity to introduce your products and services with a banner ad, white paper, or text ad.

FACTS AT YOUR FINGERTIPS

TOPIC: Pumps

SUMMARY: This one-page reference outlines the importance of operating centrifugal pumps with a flowrate that allows the highest possible efficiency for a specific impeller diameter — the best efficiency point (BEP). The column will provide key considerations for operating at BEP, and the consequences when pumps operate away from their BEP.

RELATED EQUIPMENT AND SERVICES: Centrifugal pumps, bearings, seals, pump-vibration-monitoring devices

RELEVANT INDUSTRIES: Pumps are used widely throughout the CPI

FOCUS

TOPIC: Pressure Measurement and Control

SUMMARY: Measuring and controlling pressure is extremely important to ensure proper operations and safety in the CPI. This month's Focus will feature a selection of newly released equipment that are employed in the measurement and control of process pressure

RELATED EQUIPMENT AND SERVICES: Instrumentation and control devices, as well as software and accessories, that are used for the measurement and control of process pressure

RELEVANT INDUSTRIES: Devices that measure and control pressure are important in all sectors of the CPI

Editorial material for consideration should be sent to Mary Page Bailey, assistant editor (mbailey@chemengonline.com).

ENGINEERING PRACTICE

TOPIC: Temperature Effects for High-Velocity Gas Flow

SUMMARY: Recent investigations into the potential for fluid temperatures to exist below the embrittlement temperature of relief-valve discharge piping have found that low-flowing temperatures can exist for a wide variety of systems, including flashing liquid or two-phase flow, auto-refrigeration and Joule-Thompson cooling in response to pressure drops and high-velocity gas flow. There is evidence that some systems exhibiting these behaviors have resulted in failure; however, there is an apparent lack of evidence supporting embrittlement failures involving high-velocity gas flow, and there is some inkling that the flowing temperatures experienced in high-velocity gas flow may not be realistic. Some attempt to reconcile this anecdotal evidence with the 'intuition' that the pipe (or vessel) wall temperature can approach the bulk fluid temperature given a long enough pipe and a low enough convective loss to ambient from the pipe is needed.

RELATED EQUIPMENT AND SERVICES: Process piping; pressure-relief devices and related accessories; instrumentation or software that control pressure, temperature or flowrate; materials of construction; process simulation and modeling softwares

RELEVANT INDUSTRIES: Any sector of the CPI that deals with high-velocity gases

TOPIC: Layout Design for New Plants

SUMMARY: A variety of considerations must be taken into account to optimize both the location and the layout of new plants, with regard to process requirements, safety considerations, construction requirements and constraints, operation, inspection and maintenance issues and other logistics issues. Step-by-step guidance is provided in this article.

RELATED EQUIPMENT AND SERVICES: All types of process equipment, piping and related accessories, safety equipment, tanks and related accessories, construction services, plant design software and services

RELEVANT INDUSTRIES: All CPI sectors are concerned with optimal play location and layout.



For advertising opportunities,
please contact your
sales representative

TERRY DAVIS | SALES DIRECTOR

Tel: 404-634-5123 | tdavis@chemengonline.com

ALABAMA, CONNECTICUT, DELAWARE, GEORGIA,
IDAHO, KENTUCKY, MAINE, MARYLAND,
MASSACHUSETTS, MISSISSIPPI, MONTANA,
NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH
AND SOUTH CAROLINA, NORTH AND SOUTH DAKOTA,
OHIO, OREGON, PENNSYLVANIA, RHODE ISLAND,
TENNESSEE, VERMONT, VIRGINIA, WASHINGTON D.C.,
WEST VIRGINIA, WYOMING, CANADA, LATIN AMERICA

JASON BULLOCK | DISTRICT SALES MANAGER

Tel: 281-485-4077 | jbullock@chemengonline.com

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA,
COLORADO, FLORIDA, HAWAII, KANSAS, LOUISIANA,
MISSOURI, NEVADA, NEW MEXICO, OKLAHOMA, TEXAS,
WASHINGTON

DAN GENTILE | DISTRICT SALES MANAGER

Tel: 512-918-8075 | dgentile@chemengonline.com

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA,
NEBRASKA, UTAH, WISCONSIN

DIANE BURLESON | INSIDE SALES MANAGER

Tel: 512-337-7890 | dburleson@chemengonline.com

PRODUCT SHOWCASE, LITERATURE REVIEWS,
CLASSIFIEDS, BUYERS' GUIDE & CHEMPLOY

PETRA TRAUTES | EUROPEAN SALES MANAGER

Tel: 49-69-58604760 | ptrautes@accessintel.com

AUSTRIA, BENELUX, CZECH REPUBLIC, EASTERN
EUROPE, GERMANY, SCANDINAVIA, SWITZERLAND,
UNITED KINGDOM

FERRUCCIO SILVERA | SALES REPRESENTATIVE

Tel: 39-02-284-671 | ferruccio@silvera.it

ANDORRA, FRANCE, GIBRALTAR, GREECE,
ISRAEL, ITALY, PORTUGAL, SPAIN

DIPALI DHAR | SALES REPRESENTATIVE

Tel: +1 718-263-1162 | ddhar@chemengonline.com

INDIA

Deadline to book space: December 8

2015 Advertising Opportunities

Connect with us:

