NOVEMBER | AD CLOSE: OCTOBER 7 | MATERIAL DUE: OCTOBER 11

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FOCUS ON E-NEWSLETTER:
This monthly e-newsletter is sent to a targeted database determined by the subject matter of each technical report.
This month’s e-newsletter will cover Solids Handling and deploy November 14.

2019 MEDIA KIT

TOPIC: HEAT TRANSFER
FEATURE REPORTS

Topic: Heat Transfer
Summary: Part 1 of this month’s two-part Feature Report on heat transfer looks at supercritical fluids — those that have been pressurized above their critical pressure — and the special care that must be taken in designing heat-transfer equipment in applications that handle supercritical fluids, including supercritical water in waste-treatment processes or supercritical nitrogen in enhanced oil recovery. Part 2 focuses on heat-transfer fluids and the ASTM standards surrounding their chemistry, properties and use, with special focus on fluids outside of the inorganic-eutectic-salt category.

Related equipment and services: Heat exchangers, all types of heat-transfer fluids, computer modeling software and physical-properties databases and associated heat-transfer equipment (pumps, valves, pressure, temperature and flow transmitters, process control systems, and so on)

Relevant industries: Heat transfer is relevant to all sectors of the chemical process industries (CPI).

Topic: Computational Fluid Dynamics
Summary: Computational fluid dynamics (CFD) models can emulate process equipment and generate useful results when traditional experimentation is cost-prohibitive. However, CFD simulations require a level of computing power that is beyond portable hardware. Interpolating models can mirror CFD results in laptop computers and other portable electronic devices. This article shows how to build such interpolation models from CFD or other simulation results.

Related equipment and services: Computer hardware and software for simulations, modeling, experimentation, automation and control and others, as well as process equipment for which models may be useful, including mixers, distillation columns or solids handling equipment

Relevant industries: All CPI sectors have an interest in modeling and simulation.
NEWSFRONTS

Topic: Sustainable Sourcing
Summary: Although much effort is made to increase efficiency and sustainability in process operations, many companies are also introducing sustainable practices into their supply chain, especially with regard to raw-material sourcing. Recent advances in digital technologies, including blockchain and smart sensing systems, have made traceability and verification of raw materials more easily accessible to CPI companies. This article looks at the measures CPI companies are taking to ensure sustainability across their supply chain.
Related equipment and services: Smart sensors, tools and software used for product transport, planning and logistics
Relevant industries: All sectors of the CPI are concerned with sustainability.
Editorial for consideration should be sent to senior associate editor Mary Page Bailey (mbailey@chemengonline.com)

Topic: Water Treatment
Summary: Clean water is a necessity for everyone on the planet, as well as for many operations at CPI facilities. This month's Equipment Newsfront examines the trend toward more sustainable water treatment and water reuse, with a focus on the efforts to develop new process technologies to achieve zero-discharge and closed-cycles.
Related equipment and services: All types of equipment and technologies used for water treatment
Relevant industries: Water use and treatment is important in all sectors of the CPI.
Editorial material for consideration should be sent to contributing editor Joy LePree (joylepree@gmail.com)

FACTS AT YOUR FINGERTIPS

Topic: Pneumatic Conveying
Summary: Pipelines for pneumatic conveying systems can be routed in a variety of ways, giving processors much flexibility in process layout, but problems can arise due to suboptimal bend geometry and particle impacts. This one-page reference takes a look at avoiding potential problems in pneumatic conveying systems associated with pipe bends and particle impacts.
Related equipment and services: Pneumatic conveying systems, including pipelines, hoppers, feeders, blowers, compressors and other mechanical conveying systems
Relevant industries: Any process that requires moving solid materials, including pharmaceuticals, chemicals, agricultural chemicals, biomass, food and paints

TECHNOLOGY PROFILE

Topic: Nitrile Rubber Production
Summary: Nitrile rubber (NBR) is an oil-resistant, synthetic elastomer. Made as a copolymer of acrylonitrile and butadiene, NBR is widely used in seals and gaskets, hoses, rollers and others. This one-page summary outlines the process for manufacturing of NBR.
Related equipment and services: General process equipment, including reactors, tanks, filters and more
Relevant industries: Plastics and rubber production, and industries that use NBR seals and gaskets
FOCUS

Focus: Packaging
Summary: Products manufactured by the CPI are often packaged before sending to the consumer. Such packages range from small vials, syringes and blister packs for pharmaceuticals, colorfully labeled plastic wraps and cups for foods and beverages, to bags, drums and IBCs for bulk chemicals. This month's Focus presents the newest products and services for packaging.
Related equipment and services: All types of packaging machines, filling machines, bag and drum lifters and openers, discharge pumps, and more
Relevant industries: All sectors of the CPI
Editorial material for consideration should be sent to senior editor Gerald Ondrey (gondrey@chemengonline.com)

ENVIRONMENTAL MANAGER

Topic: Preparing for a Successful Security Audit
Summary: Security gaps at a manufacturing plant can potentially lead to reputation-damaging theft, or even severe safety or environmental incidents. Security audits help highlight potential security deficiencies and develop plans to rectify related issues. This article provides guidelines to help plants prepare for a third-party security audit.
Related equipment and services: Software and tools used for project management; any type of equipment used for plant security, including cameras, lockout/tagout systems, safety signage, fencing and so on; cybersecurity systems
Relevant industries: Ensuring plant security is important in all CPI sectors.

ENGINEERING PRACTICE

Topic: Thermodynamic Model Selection for Process Simulation
Summary: One of the first and most important decisions to be made when modeling a chemical system using a computer-simulation package is the selection of an appropriate thermodynamic property method. Thermodynamic property methods facilitate the mathematical calculation of pressure, temperature, composition and specific volume, for multi-component and multi-phase chemical systems. They are also used as a basis for determining the state functions of a system, such as enthalpy and entropy and hence, Gibbs free energy. This article provides an overview of the primary thermodynamic property methods, their basis, strengths and weaknesses, and their applicability to various chemical systems.
Related equipment and services: Software for modeling, databases for thermophysical properties, and more.
Relevant industries: Thermodynamics modeling is widely used, especially those sectors applying thermal-separation techniques, such as distillation, which is widely used throughout the CPI

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