CHEMICAL ENGINEERING
October 2017
ESSENTIALS FOR THE CPI PROFESSIONAL
www.chemengonline.com

Improving Bulk Solids Handling

page 43

Fluid Sealing

Chlor-Alkali Production

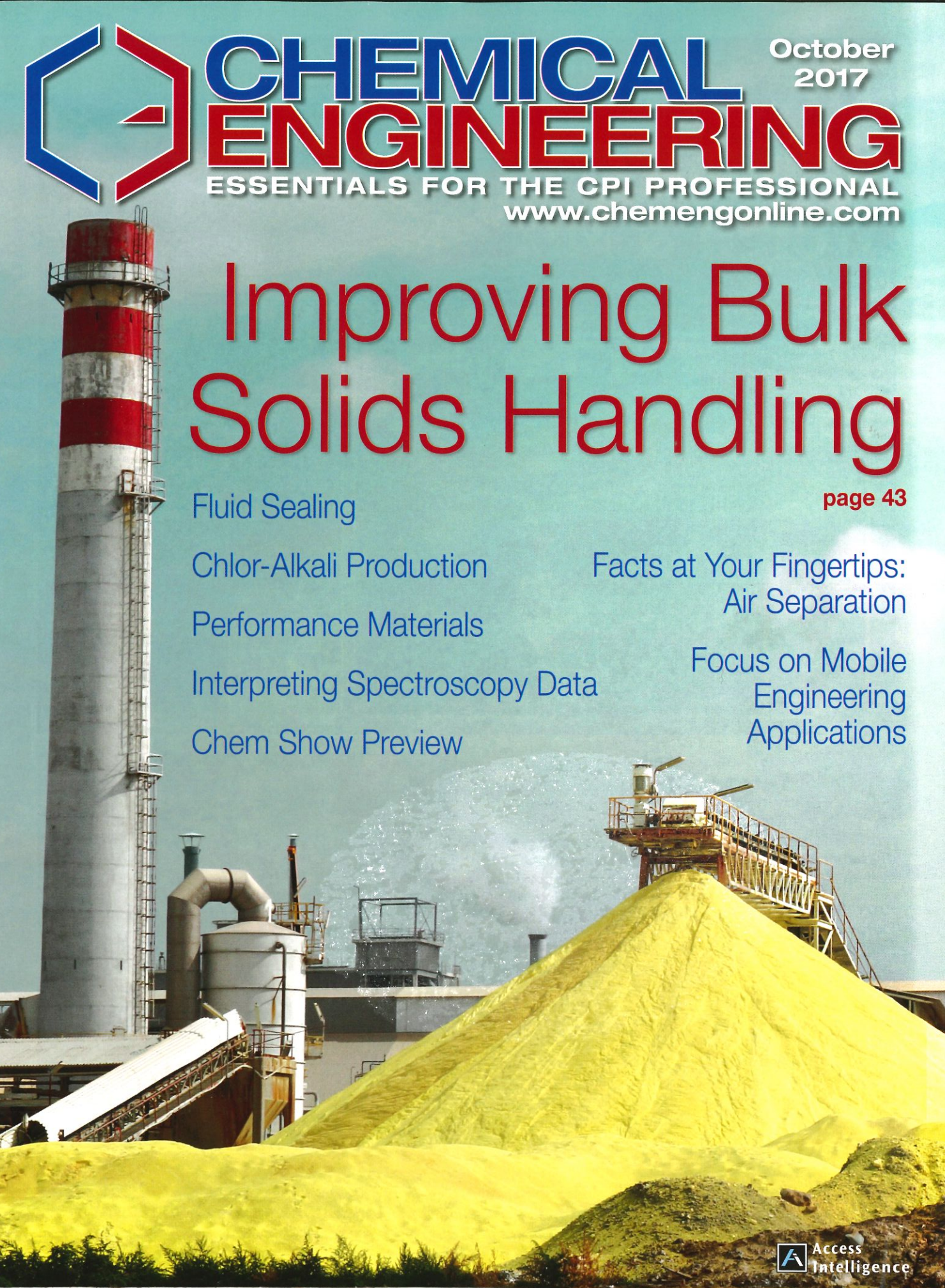
Performance Materials

Interpreting Spectroscopy Data

Chem Show Preview

Facts at Your Fingertips: Air Separation

Focus on Mobile Engineering Applications



Access Intelligence

EKATO

PROCESS PLANTS FOR

- Hydrogenation
- Solids blending / drying
- Pharma, food, cosmetics
- Finechemicals

2017 CHEM SHOW

THE EVENT FOR PROCESSING TECHNOLOGY

OCT 31 - NOV 2 | JAVITS CENTER | NYC

Hall A / Booth 642

Your fast lane to advanced mixing technology:

Phone: +1 201 825 4684
Ext.: 205

usa@ekato.com

www.ekato.com

Hydrogenation Plants: Your fast lane to production

Accelerated product innovations in the chemical industry and a general trend to more specialties and fine chemicals have led to a growing need for knowledge-based and value-adding consulting and engineering services from experienced equipment suppliers to jointly develop industrial hydrogenation processes. EKATO therefore followed a strategy to create greater responsiveness to changing customer demand and has extended its performance range to develop, engineer and supply complete industrial hydrogenation reactors.

Hydrogenation reactors made by EKATO apply the unique combined gassing system which boosts the conversion rate of mass transfer limited reactions. Unconverted gas in the headspace is recirculated into the reaction media leading to a complete utilization of the reaction gas. A safe inclusion of the reaction media is ensured since external recirculation is not needed. In continuous reactors, an intensive mixing of educts and gas takes place in the discharge zone of the GASJET.

THE CHALLENGE:

Reactions using purified gases call for:

- Complete utilization of the gas
- High productivity through a shorter reaction time
- Reliable containment of the gas and the products of reaction

THE EKATO SOLUTION:

High productivity in a simply constructed reactor with the EKATO combined gassing system:

- Combined action of two different impeller types
- Primary dispersion by the EKATO PHASEJET
- Recirculation by the EKATO GASJET

Low concentrations of feedstock in the reactor due to high local rates of chemical conversion and short mixing times.

THE EKATO GASJET

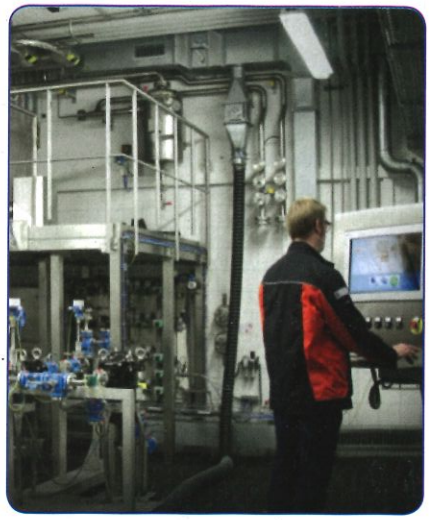
- Recirculation of reactant gas from the headspace with no external compressor
- Intensive mixing of feedstock and reactant gas in the impeller discharge zone
- High heat transfer rates

THE EKATO PHASEJET

- Gas introduced via rotating gas sparger
- High flooding limits
- Little change in power draw between ungassed and fully gassed conditions
- Homogeneous suspension of the catalyst

THE EKATO COMBINED GASSING SYSTEM ENSURES:

- High operating safety and reliability
- Low instrumentation and control costs
- Productivity boost through high mass transfer rates
- Minimum number of components



EKATO Hydrogenation Test Center
http://www.ekato.com/en/products/process-plants/pilot-plants/hydrogenation-test-center

EKATO contributes with knowledge and experience in gas/liquid-reaction technology, engineering and project management to shorten and de-risk the development and supply of a full-scale industrial hydrogenation reactor.

The unique offer is the fact that EKATO can supply and manage the industrialization of hydrogenation processes from laboratory to production plant scale – all out of one hand.

Chem Show 2017
EKATO CORPORATION exhibits at the Chem Show in New York, USA
Hall A / Booth 642

www.ekato.com