

CHEMICAL ENGINEERING

September
2021

ESSENTIALS FOR THE CPI PROFESSIONAL
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Distillation Tray Stability

page 26

Sequencing
Batch Reactors

Sand Filter
Operation

Electrochemistry
Developments

Facts at Your
Fingertips:
Control
Valves

Focus on
Solids
Handling

 Access
Intelligence

Mounted on locking casters, the Bulk-Out BFF Series discharger (photo) has four adjustable extension posts to accommodate bulk bags 36- to 84-in. tall. The removable bag-lifting frame with Z-Clip strap holders allows bulk bags to be attached at ground level, then forklifted into receiving cups on the discharger frame. A Spout-Lock clamp ring atop a pneumatically actuated Tele-Tube telescoping tube secures the clean side of bag spout to the clean side of the equipment, and exerts continuous downward tension on the bag as it empties and elongates, promoting flow and evacuation. A vent port with a filter sock contains dust. — Flexicon Corp., Bethlehem, Pa.

www.flexicon.com

A bag discharger with loss-in-weight batching control

This bulk-bag discharging system with scale system and crusher (photo) provides for an efficient, controlled discharge of materials through a loss-in-weight operation into the user's existing process. The unit utilizes a 2-ton hoist and trolley system and a Spider-Lift bag-lifting frame to allow for safe and efficient loading of bulk bags into the Material Master system. The crusher reduces material to desired particle size, then the scale system and a summing box communicate with a slide gate to provide for an accurate discharge of uniform material into the process. Systems are custom designed for each specific application. — Material Transfer & Storage, Inc., Allegan, Mich.

www.materialtransfer.com

Bag-dump module for many types of process equipment

This new bag dump module (photo) can be installed on the lid of bulk-solid mixers, blenders, size-reduction equipment and storage vessels to contain dust generated when bulk materials are dumped manually. The self-contained module includes a dust hood with hinged door, a blower that draws airborne dust onto the outer surface of two PTFE 1- μ m pleated cartridge filters and air nozzles that periodically dislodge accumulated dust, returning it to the vessel below. The pre-drilled flanges on the rear and sides of the hood allow rapid fastening to mixers, blenders, size-reduction equipment, storage vessels and other equipment having horizontal covers with square openings from 24 to 30 in. Construction is of stainless steel finished to industrial,



Flexicon



Material Transfer & Storage



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Water Management

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Inside:

AUMA	53
Buss-SMS	53
Collins Instruments.....	55
Myron L Company	54
Ross Mixers	55
VEGA	54

Smart and reliable valve automation

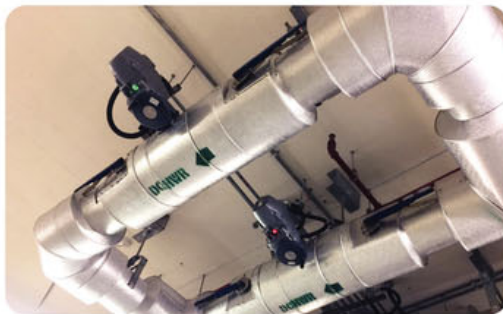
AUMA's high-performance PROFOX actuators combine utmost reliability with outstanding ease of use

AUMA PROFOX actuators ensure reliable chilled water supply in the district cooling network of Qatar Cool, one of the leading district cooling suppliers in the Middle East. The PROFOX actuators replace actuators of a different brand which, although only a few years old, did not stand up to the process conditions.

PROFOX actuators proved to be the perfect solution for the challenging requirements of Qatar Cool, thanks to their high-quality, high-precision mechanics and their innovative design. A key benefit for the customer is easy operation of the actuators via Bluetooth, using the AUMA Assistant App. This means that the actuators can be easily operated locally, even though they are installed at a height that is difficult to access. In addition, the FOX-EYE indicator light clearly shows the actuator status, even from a distance.

AUMA launched the PROFOX electric

actuator series only last year. Providing fast and precise positioning, great flexibility and an excellent cost-benefit ratio, the high-performance, compact actuators are



suitable for all industry sectors, including water treatment, combined heat and power plants, district heating and cooling, process industries, and shipbuilding. Innovative diagnostics and flexible interfaces future-proof PROFOX for IIoT applications.

www.auma.com

Thermal Drying of Sewage Sludge

Buss-SMS-Canzler Thin Film Dryers: simple, reliable, safe



Every person contributes 80-100 kg per year to the municipal sewage sludge volume. Environmental requirements and legislation push to dry more and more of that sludge. But removal of water makes the sludge very sticky depending on the dry substance content. The operating principle of **Buss-SMS-Canzler Thin Film Dryers** enables to handle the sludge in the entire concentration range up to full dryness without back mixing of dry sludge. SMS' Thin Film Dryers are successfully used for partial as well as full drying. No special shut down/start up preventions nor feed conditioning measures are necessary. The dryer "takes what comes" and proves its big flexibility regarding feed material quality. Its design has been optimized and integrated into thin film dryer systems. The entire process is completely safe.

The thin film principle leads to very small product hold-up and fast reaction time on control parameter changes whilst the outlet sludge is of uniform and constant quality in form of granules. So the thin film dryer provides very good conditions for integration into incineration plants.

The internal rotor system with removable wiper blades makes the dryer self-cleaning and highly reliable. More than that, wear zones are well defined, and preventive maintenance is predictable in time and costs.

The Buss-SMS-Canzler thin film dryers are available for steam or oil heating and can evaporate up to 9 t/h of water in 1 machine.

www.sms-vt.com