



# What's New

## HEAT TRANSFER Heat Exchanger Cools Adhesives Quickly



Because it can take six to 18 hr to form and package a standard batch of adhesives, manufacturers try to shorten the time-to-cool period prior to forming in order to increase productivity and reduce costs. The Kenics heat exchanger is able to cool viscous, hot-melt adhesives quickly. The exchanger consists of a continuous string of static mixer elements within each exchanger tube. Fluid flow is directed radially toward the pipe walls and back to the center of the element to continuously mix the fluid and eliminate radial temperature, velocity, and material composition gradients. The system is designed to remove 100°F of heat from molten materials flowing at 4,000 lb/hr.

**Chemineer**

[www.chemineer.com](http://www.chemineer.com)

## BIOPROCESSING Clarification System Handles High-Cell-Density Cultures



Continuous improvements in growth media and cell lines have enabled higher concentrations of biomass in bioprocesses, creating a challenge for

purification systems. The Sartoclear Dynamics clarification system is suitable for harvesting mammalian cell cultures with high cell densities. This single-use unit consists of prefilled bags containing ultrapure diatomaceous earth (DE) that come in sizes ranging from 0.5 kg to 10 kg. A quick-connect adapter for dust-free powder transfer allows the DE to be mixed directly into the cell culture fluid. The porous filter aid prevents blockage of the filters, which maximizes filter performance. Used in combination with precipitation, this technology transforms harvesting from a two-stage process to a single-stage operation — saving space and time.

**Sartorius Stedim Biotech**

[www.sartorius.com](http://www.sartorius.com)

## Batch Medium Is Robust and Adaptable



The EX-CELL Advanced product line is designed to address the needs of the evolving pharmaceutical and biopharmaceutical industries, where speed to market is paramount. Additionally, it streamlines regulatory compliance and offers the supply chain security needed in the biopharmaceutical environment. The first offering in the line is the EX-CELL Advanced Chinese Hamster Ovary (CHO) fed-batch medium. This batch media system is said to outperform other commercially available media, handling significantly higher concentrations without compromising protein quality. It can be scaled up and adapted easily, so users

can get their processes up and running quickly and efficiently.

**Sigma-Aldrich Corp.**

[www.sigma-aldrich.com](http://www.sigma-aldrich.com)

## MATERIALS AND CHEMICALS

### Biofunctional Extract Helps Maintain Skin's Cellular Rhythm



This product capitalizes on research that suggests skin temperature, sebum production, pH, electrical charge potential, and transepidermal water loss (TEWL) are influenced by an individual's circadian clock. This biofunctional, called Chronogen YST, is an extract derived from yeast protein that may help to maintain skin's cellular rhythm and guard against UV damage *in vitro* for optimal skin function and appearance. Based on study results, the manufacturer recommends the biofunctional for use in daytime skincare formulations to help skin boost its natural defenses against UV-induced damage, and for nighttime and anti-aging skincare formulations to aid skin regeneration (which slows with age).

**Ashland**

[www.ashland.com](http://www.ashland.com)

### Polyurethane Dispersions Improve Coating and Adhesive Formulations

These UV-curable water-based polyurethane dispersions (PUDs) are free of solvents, surfactants, and tin

catalysts. They are supplied at approximately 40% solids content, and are compatible with other water-based coatings. Because they are resistant to water, chemicals, and staining, they are ideal for use in coatings for wood, plastics, paper, paperboard, and metal, as well as in adhesives. After the removal of water and UV curing, CN9500 and CN9501 contribute coating properties such as good flow and leveling and a low minimum film-formation temperature (MFFT). Both offerings are dry to the touch (after water removal), and they create a warm appearance on wood, are non-yellowing, and are easily matted to a low-gloss finish. CN9500 provides a balance of flexibility and hardness, while CN9501 provides high hardness and abrasion resistance without brittleness.

**Sartomer**

[www.sartomer.com](http://www.sartomer.com)

## ENVIRONMENTAL, HEALTH, AND SAFETY

### Fire Protection Fittings Bend around Corners Easily



PEX Press fire protection fittings and mounting bracket are made of a high-performance, flexible polymer. Unlike rigid pipe, these flexible fittings can be easily bent for installation around corners. Eight fittings are available in two sizes (0.75 in. and 1 in.) and in four configurations (straight adapters, elbows, tees, and wall tees). The mounting bracket can be used with all sprinkler pendant styles and with every sprinkler configuration, which eliminates the guesswork behind properly aligning sprinkler pendants during

installation. The wall-tee fitting does not require a bracket, and is designed to efficiently feed back-to-back rooms with one plumbing line and one fitting. These cost-effective offerings help to speed up installation.

**Viega**

[www.viega.us](http://www.viega.us)

## INSTRUMENTATION

### Sunshade Accommodates Large Field Instruments



Most process instrument sunshades are designed to shield individual instruments or small-scale field equipment. The CubeShade, a large (600 mm high by 550 mm wide by 500 mm deep) sunshade with a 165-L shading capacity, can accommodate and protect large or multiple instruments, such as electronic monitoring systems, explosionproof junction boxes, and analyzers. The shade is constructed of a glass-fiber-reinforced sheet-molding compound (SMC) that combines chopped glass fibers, fillers, polyester resin, and a catalyst. The SMC material is resistant to UV and corrosion from salt and common petrochemicals, and it has high rigidity and mechanical strength. The shade's structural sidewalls protect equipment from low-angle sun, as well as provide partial protection

from weather, dust or sand, and accidental impact.

**Intertec**

[www.intertec.info](http://www.intertec.info)

## FLUIDS AND SOLIDS HANDLING

### Pin Mill Reduces Friable Solids



This pharmaceutical-grade pin mill, Model CIM-18-S316, grinds friable powders, flakes, and granules into particles of controlled size ranging from coarse to fine. Conventional pin mills have a static outer disc that is removable and an inner rotating disc that is not. In contrast, both of the discs in the CIM-18-S316 can swing away from the unit on cantilevered arms, providing full access to both sides of both discs and to the mill housing for rapid cleaning and sanitizing. The inner disc's high-speed rotation creates centrifugal force that accelerates bulk material entering the central inlet of the opposing stationary disc. As materials travel to the periphery of the discs, they pass through five intermeshing rows of precision-machined rotating and stationary impactor pins. The desired particle-size distribution is obtained by controlling the rotor speed. Because the mill housing is vertically oriented, the mill occupies a smaller footprint than horizontal units.

**Munson Machinery Co.**

[www.munsonmachinery.com](http://www.munsonmachinery.com)