

INDA's e-Filter Newsletter

The Filtration Industry's Information Hub

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Welcome to e-FILTER, sponsored by INDA, Association of the Nonwoven Fabrics Industry (www.inda.org). It is sent every other month to executives within the global filtration business and focuses on the latest news, new products, patents, legislative issues and commentary in the filtration industry. Check out the information at the end of this newsletter on how to subscribe or submit your company's information for inclusion.

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REMEMBER: Filtration 2008 is scheduled for December 9-11 at the Pennsylvania Convention Center in Philadelphia. For more information: www.inda.org.

LANDMARK NORTH AMERICAN FILTER REPORT AVAILABLE FROM INDA

The increasing importance of air filtration is illustrated in a recently released “Air Filtration Industry of North America” report published by INDA. The five principal markets studied include industrial dust filtration (bag filters), HVAC (consumer, commercial and HEPA/ULPA), face masks, vacuum cleaner bags and transportation (air intake and cabin air).

This is INDA's first focused analysis of the filtration industry and is the first in a two-part study being conducted. The second study will focus on liquid filtration markets and will be released in 2009.

The report places the North American (U.S. and Canada) air filtration market at the filter manufacturer's level at \$3.1 billion in 2007, with average annual growth of 2.4% per year projected over a five-year period. INDA estimates the market will then reach \$3.5 billion.

“INDA's mission is to promote the value and profitability of the nonwoven/engineered fabrics industry worldwide and it is also our role to serve the worldwide interests of our many members and consumers of the industry's products,” said Ian Butler, director of market research and statistics at INDA. “To that end, this report provides a benchmark of the industry at the beginning of the 21st century and its outlook for growth by geographic region.”

More information: www.inda.org/pubs/marketing/index.html

VISION 2008 ATTRACTS MORE THAN 300 EXECUTIVES TO TEXAS

Topical and informative presentations on corporate sustainability from Wal-Mart and Kimberly-Clark enthralled a standing-room-only crowd during the VISION 2008 Consumer Products Conference, just one of many highlights of the three-day event held February 12-14 in Fort Worth, Tex.

The seventh annual Conference, organized by INDA, brought together more than 300 executives from both the consumer products and engineered fabrics industries from around the world.

Another of the many highlights of the three-day Conference was the presentation of the coveted 2008 Visionary Award to Kimberly-Clark for its new SpaSensials beauty

care product. SpaSensials was selected over five other finalists from in voting by VISION 2008 attendees.

In the most well attended session at VISION 2008, Kim Brandner, senior manager-sustainable textiles, for Wal-Mart Stores, and Ken Strassner, VP-Global, Environmental, Safety, Regulatory and Scientific Affairs at Kimberly-Clark, focused on Corporate Sustainability as a key business strategy in the 21st Century. "Wal-Mart will only work with suppliers who maintain the sustainability standards we want in our relationships," said Brandner. "Sustainability is more than just a responsibility, it is a business opportunity."

Added Strassner, "Sustainability development issues will shape the future of business. Yet we have only begun to tap the surface of sustainability and it is a continual process that helps to better position Kimberly-Clark as a global health and hygiene company."

In the Visionary Award competition, Kimberly-Clark's SpaSensials narrowly defeated five other nominated products: Curity Brand Nursing Pad, Covidien; Do-Rite Disposable Dog Diapers, Do-Rites; PowerTex Glass Cleaner, Ecolab; OMop Dry Sweeper Cloths, Method Products; and Consumer Shopping Bags, Reliance Industries (India). Now in its seventh year, the Visionary Award is given annually to a new consumer product that utilizes nonwoven fabrics in its final form.

In a major announcement during VISION 2008, INDA revealed that VISION 2009 Consumer Products Conference will return to New Orleans for the first time since Hurricane Katrina ravaged the area. VISION 2009 will be held January 26-29, 2009 at the Sheraton New Orleans Canal Street, site of the original VISION Conference in 2002.

INDUSTRY NEWS

FREUDENBERG SHUTS DOWN TWO AUTO LINES IN KENTUCKY

Effective March 15, Freudenberg Nonwovens will cease production on two manufacturing lines in its Hopkinsville, KY facility. One line produces staple fiber/binderbond nonwovens and the second is an adhesive web operation, both serving the North American automotive market.

Declining production volume year over year has necessitated the closing. "We have been working with the effected customers developing supply alternatives" says Stephan Liozu, VP&GM, Spunlaid Division North America. "We will be transferring business associated with the two lines from the Hopkinsville facility to our operations in Durham, NC."

Freudenberg's Filtration Division will continue operations from the Hopkinsville location, as will Freudenberg Vitech, L.P., which serves the North American automotive market. Spunlaid and staple fiber operations in Durham, NC will continue to serve the North American interlining, industrial and building products segments as well as the automotive market.

FREUDENBERG PROMOTING MICRONAIR OFFICE LINE

Freudenberg Nonwovens is keeping the air clean and healthy in company and home offices with its micronAir office Fine Dust Filter for laser printers, faxes and copiers. The micronAir office Fine Dust Filter consists of environmentally neutral, fully

recyclable nonwovens in a triple-layer construction, one layer of which contains microfibers that are electrostatically charged - and these layers permanently bind even the finest respirable ultra-fine particles, irrespective of the specific chemical composition of the dust emitted. The micronAir Fine Dust Filter has been fully certificated by the TÜV Nord and bears the following seal: "Effective protection against fine dust and toner particles."

"With the micronAir office Fine Dust Filter we are offering users an economical product that provides efficient protection from fine dust pollution in the office," explained Harald von Schischka, the Fine Dust Filter project leader at Freudenberg Nonwovens. "For us, clean air at work is an integral part of the Green IT."

It has been proven by various international studies that ultra-fine particles are emitted by laser printers, fax machines and copiers. According to one study, the increase in the concentration of fine dust can be assessed as being quantitatively alarming from a hygiene standpoint and may also be regarded as being questionable from the point of view of health." Based on this current knowledge and seen from the standpoint of precautionary aspects, the FIRA advocates preventative measures in this case.

The micronAir office Fine Dust Filter drastically reduces the emissions from laser printers and copiers — significantly lowering the level of fine dust pollution in room air.

EFP RECEIVES POSITIVE REPORT ON FILTER MEDIA

Emergency Filtration Products recently received the final report for the assessment of virucidal effectiveness of treated masks (the NanoMask filter media) using avian influenza virus from the independent testing laboratory which conducted the test. The final report was based on filter media samples coated with a silver nanoparticle formulation which underwent one year of simulated aging. The sample was challenged with the avian influenza strain H9N2. According to the final report, the test resulted in a 99.96% reduction of the avian influenza virus.

This result compares favorably with a previously disclosed result which indicated a 99.75% reduction obtained from a preliminary report by the same independent testing laboratory.

DONALDSON REPORTS SECOND QUARTER RESULTS

Donaldson Company recently announced second quarter diluted earnings per share of \$0.42, an 11 percent increase from \$0.38 last year. Net income was \$34.1 million, up from \$31.3 million last year. Sales were \$511.8 million, a 10 percent increase from \$463.7 million in the second quarter of 2007.

For the six-month period, net income increased 15 percent to \$77.4 million versus \$67.3 million last year. Sales were \$1.037 billion, up 14 percent from \$910.2 million in fiscal 2007.

"Our globally-diversified portfolio of filtration businesses provided the foundation to deliver another record quarter of sales and earnings," said Bill Cook, chairman, president and CEO. "Strength in our Engine Products businesses internationally plus continued growth in our international Industrial Products businesses, including Industrial Filtration Solutions and Special Applications Products, helped offset some of our weaker NAFTA markets."

REPORT SAYS GROWTH IN BOTTLED WATER HAS SLOWED

Growth in bottled water in the U.S has slowed due to concerns about the environmental impact of plastic bottles, according to a new report on “Water Filtration in the United States 2008,” produced by researchandmarkets.com.

The water filtration and purification device market includes plumbed-in systems (under-sink systems and water softeners), pour-through devices (including pitchers, countertop devices, faucet-mount devices, and replacement filters) and refrigerator filters. Prospects for increased growth in this market are strong, but will depend on the marketing tactics of suppliers and retailers.

This report provides insight into issues that have the potential to bolster sales in the water filtration market. In particular:

- ☞ Consumer awareness of water quality issues. Consumer awareness of water quality issues is still low. This report discusses how water filtration marketers can increase sales through consumer education campaigns.
- ☞ Bottled water backlash. For the past several years, water filtration has faced increasing pressure from bottled water. However, growth in bottled water has slowed due to concerns about the environmental impact of plastic bottles. This report provides insight into how water filtration marketers can capitalize on this opportunity.

This report includes water purification and filtration devices that are used in the home and are available to consumers through supermarkets, discount centers, mass merchandisers, hardware stores, home centers and specialized dealers. These filtration products are designed to purify tap water and improve its appearance, taste and smell.

CECO ENVIRONMENTAL ACQUIRES FISHER-KLOSTERMAN

CECO Environmental Corp., a provider of air pollution control and industrial ventilation systems, has acquired Fisher-Klosterman. The acquisition of Fisher-Klosterman, headquartered in Louisville, KY, also includes its Buell Division and most significantly, Fisher-Klosterman's 40,000 sq. ft. sales and manufacturing facility in Shanghai, China. Fisher-Klosterman's businesses consist of producing cyclones, as well as classifiers, electrostatic precipitator parts and service, air filtration equipment, and scrubbers. These products are utilized for air pollution control and particulate recovery in industries including petroleum refining, power production, petrochemicals, and manufacturing.

LYDALL ANNOUNCES YEAR-END RESULTS

Lydall recently announced financial results for the fourth quarter and year ended December 31, 2007.

Net sales for the fourth quarter ended December 31 were \$85.9 million, compared with \$80.6 million for the same period in 2006. Excluding the impact of foreign currency translation, net sales increased by \$2.2 million in the fourth quarter of 2007 compared with the fourth quarter of 2006. Net income for the current quarter was \$2.9 million, or \$.18 per diluted share, compared with \$2.1 million for the fourth quarter of 2006.

Net sales for the year ended December 31, 2007 were \$338.9 million, compared with \$326.4 million for 2006. Excluding the impact of foreign currency translation, net sales increased by \$3.8 million in 2007 compared with 2006. Net income for 2007 was \$9.6 million, compared with \$10.2 million for 2006.

In its Filtration/Separation unit, net sales were \$21.0 million in the current quarter compared with \$19.2 million in the same period last year. Excluding the impact of foreign currency translation, segment net sales increased by \$1.1 million, or 5.7 percent, for the fourth quarter of 2007. Air and liquid filtration product net sales increased by \$0.7 million, and net sales of vital fluids' products increased by \$0.4 million during the current quarter, compared with the fourth quarter of 2006.

BIOSCIENCE PURIFICATION KILLS MRSA IN ONE HOUR

A bioscience medical device invented in Britain can eradicate the MRSA “superbug” and other bacteria and viruses on surfaces in just one hour by purifying the air within any enclosed living area, according to a new report by scientists at independent testing laboratories (UK HPA Centre for Emergency Preparedness and Response, Porton Down, 2007).

Unlike air filtration systems, the UK patented prototype is effective even without processing all of the air in a room through the unit. It combines a number of established technologies to trigger a molecular chain reaction that decontaminates the environment of germs, report its British inventors Tri-Air Developments. This is achieved harmlessly, even within a room that is occupied by humans.

In recent tests MRSA bacteria samples on glass and metal – at concentrations similar to those that might be found in infected hospital wards – were exposed to the air purification system and destroyed in less than one hour. The results follow a report last year by the same laboratory that confirmed the unit took less than two minutes to kill airborne test bacteria Staphylococcus, which is the same genus as MRSA.

This purification process is 100 times more effective than any current method of decontamination and can maintain air purity for as long as the unit is operational, according to inventors Tri-Air Developments - co-founded by microbiologists at Promanade Ltd and technology transfer specialists Inventa Partners Ltd and the UK's BRE (Building Research Establishment),

The UK patent was granted in June 2007 for the biotechnology unit, which incorporates three decontamination technologies to overcome their inherent individual shortcomings, says CEO Gideon Davenport: non-thermal plasma; ultraviolet catalysis; and OAF (Open Air Factor). It continually ‘scrubs’ the air clean to create a fresh air environment that is lethal to viruses and bacteria, including MRSA.

For more: Tri-Air Developments, Tri-AirDevelopments@uk.pwc.com

CULLIGAN OUTFITS LEED REMODELED HOME

The world’s first LEED for Homes Platinum Certification for a home remodel – a 1948 rambler – is also home to a new water management system from Culligan. Platinum is the highest level of certification awarded by the U.S. Green Building Council (USGBC) for residential Leadership in Energy and Environmental Design (LEED).

The home in Minnetonka, MN is a product of the environmental organization, Live Green, Live Smart green housing project, with virtually every square foot devoted to

energy efficiency, water conservation and healthy occupancy. Culligan's water softener and drinking water systems were instrumental in converting the water management processes of the aging abode to a global role model for contemporary sustainable living.

Culligan Water Conditioning – the Minnetonka-based flagship dealer of the largest independent Culligan franchise with 20 locations throughout Arizona, Iowa, Minnesota, New York, Pennsylvania and Missouri – donated the solutions necessary to upgrade the home's existing water treatment systems to meet LEED standards. The equipment donation involved a Culligan Smart-Sensor water softener and The Culligan Good Water Machine reverse osmosis (RO) filtration unit for drinking water.

UNITED PET GROUP INCORPORATES TIMESTRIP INTO AQUARIUM FILTERS

United Pet Group Inc., a marketer and manufacturer of aquatic and companion pet products, has introduced its Tetra Whisper EX aquarium filtration systems which incorporates a Timestrip visual elapsed-time monitor in the unit. Unveiled at the recent Global Pet Expo, the product is unique since the Timestrip indicates when the aquarium filter should be replaced.

“Timestrip is a very important aspect of Tetra's new line of Whisper EX filtration systems,” said Joseph Roark, senior brand manager at Tetra. “It takes the guess work out of when a consumer needs to change a filter cartridge, ultimately leading to a healthier aquatic environment, longer-lived fish, and a more enjoyable aquarium experience.”

Timestrip's time- and temperature-sensitive smart labels visually monitor elapsed time from minutes to over a year on any product. In addition to being incorporated in the Tetra's Whisper EX system, they are becoming increasingly popular among consumers to track time in use of filters and other appliance components – whether at room temperature or frozen – as well as the period after opening of foods, cosmetics and medicines. Once activated the strips provide clear, visual monitoring of remaining product shelf life.

PATENT REVIEW

Atmospheric pressure ion source high pass ion filter

Pub. Number: US7332715

Applicant: Agilent Technologies, Inc.

Inventors: Russ, IV, Charles W.; Fischer, Steven M.; Crawford, Robert K.

Abstract: For generation and delivery of ions from an ionization chamber through an ion entrance orifice to a mass analyzer operating at high vacuum, high pass ion filtration is effected within the ionization chamber by application of electrical potentials to an electrode associated with the ion entrance orifice and to an electrode between the ionization region and the ion entrance orifice to create a retarding electric field upstream from the ion entrance orifice. The retarding electric field hinders the movement to the ion entrance orifice of ions having drift velocities below a lower limit, and as the retarding voltage gradient is made steeper, the lower limit increases.

Blood filter assembly having multiple filtration regions

Pub. Number: US7332096

Applicant: Fenwal, Inc.

Inventor: Blickhan, Bryan J

Abstract: A filtration medium is sealed within a housing. The filtration medium is sized and configured to define multiple filtration regions within the housing, through

which independent, though concurrent, blood filtration can occur. Each filtration region is served by its own inlet path, which conveys blood into the filtration region. The filtration medium in each filtration region passes the blood to remove at least one undesired component, such as, e.g., leukocytes. After filtration, the multiple filter regions convey the blood into a single, centrally located manifold. A single outlet path communicates with the manifold.

Air filtration system

Pub. Number: US7332019

Applicant: American Standard International Inc.

Inventors: Bias, Larry Stephen; Field, Jay Ernest; Salvage, Scott Anthony; Smith, Shannon Leigh; Vendt, Stephen J.; Woodruff, Mark D.

Abstract: An air filtration system includable in and for HVAC equipment includes one or more intense field dielectric filter units and a field charging unit retained in a support structure or cabinet by a removable door which includes control circuitry and contactors engageable with corresponding contact members on a filter unit and the field charging unit for supplying high voltage DC potential to the respective units. Each filter unit includes a filter core comprising a stacked array of filter elements formed of dielectric sheets interconnected by elongated spaced apart ribs forming flow passages. The field charging unit and the filter units are removable from the support or cabinet for cleaning or replacement by opening or removing the door. An interlock switch and a field shorting mechanism are actuated during servicing or replacement of the system components.

Filtration bag replacement system for a floor care appliance

Pub. Number: US7332005

Applicant: The Hoover Company

Inventor: Wegelin, Jackson W.

Abstract: A floor care appliance such as a vacuum cleaner is provided having an filtration bag changing assembly located in the filtration compartment. A supply of filtration material is packaged in a container in the form of a continuous tube to be fed into the filtration compartment. A sealing and cutting assembly seals the tube at the lower end after a bag is fed into the filtration compartment. Once a filtration bag is full, a new filtration bag is pulled into place with the lower end of the tube being sealed and the old filtration bag being cut from the tube by a cutter. A pair of opposing heating elements is used to seal the opposing sidewalls of the tube together to form the filtration bag. The free end of the tube is fluidly connected to the suction nozzle by a connector and a dirt duct.

THAT'S ALL, FOR THIS MONTH...

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