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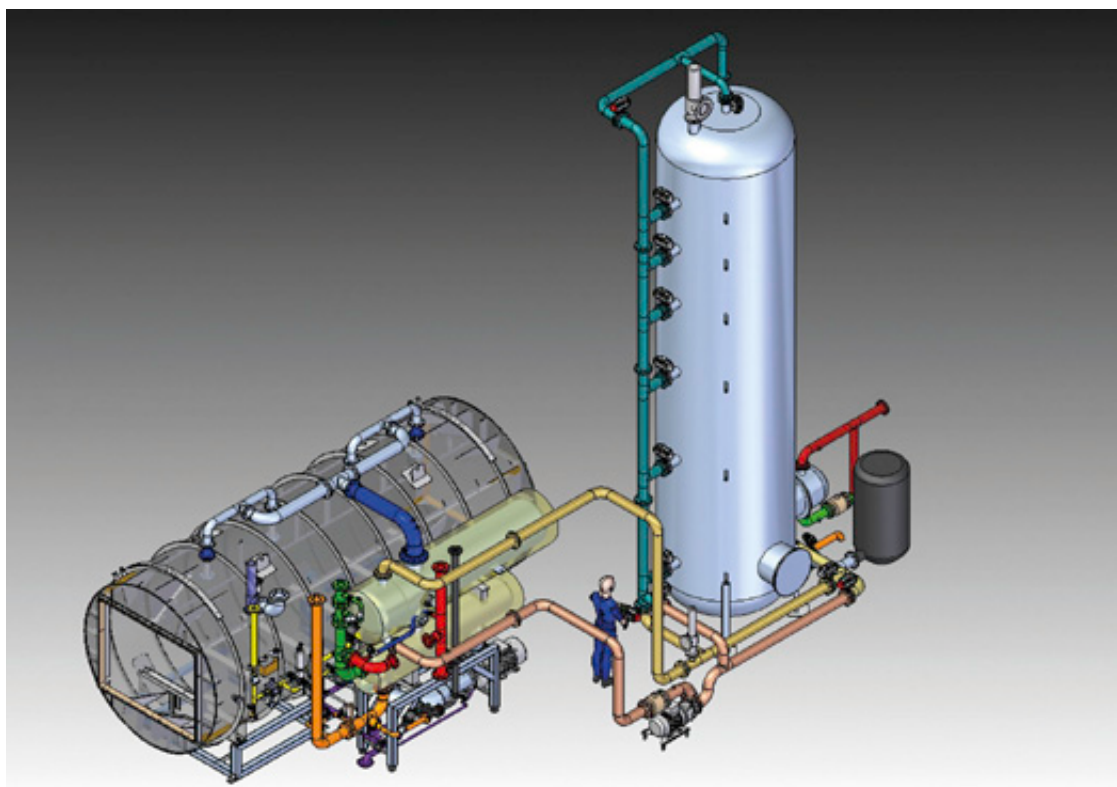


Significant cost savings for hot water shower sterilizers



New patented energy recovery concept

- Multilayer storage tank for simultaneous use with several sterilizers
- Energy savings of up to 40 percent in heating, and 60 percent in cooling



New patented energy recovery concept for hot water shower sterilizers: Thanks to the new patented energy recovery concept for hot water shower sterilizers from the Bosch subsidiary Schoeller-Bleckmann Medizintechnik (SBM), users achieve energy savings of up to 40 percent in heating, and 60 percent in cooling.

**15th - 19th June 2015: ACHEMA 2015,
Frankfurt am Main (D)**

With a new patented energy recovery concept for hot water shower sterilizers, Bosch Packaging Technology, a leading supplier of process and packaging technology, enables users to achieve significant energy savings in heating and cooling during the sterilization process. The concept was developed by Schoeller-Bleckmann Medizintechnik (SBM), a Bosch Packaging Technology company. "By re-using heating and cooling energy, the system lowers the Total Cost of Ownership (TCO) - not only for hot water shower sterilizers from Bosch but also for those from other manufacturers. Moreover, it can be simultaneously used on several sterilizers," explains Isa Alkan, head of sales at SBM.

Significant savings in heating and cooling

The self-contained, independent system consists of a multilayer storage tank, which is divided into several temperature zones and firmly piped to the sterilizer via a heat exchanger. The water temperature in the permanently filled storage tank increases from bottom to top. Separation planes prevent the temperature zones from mixing too quickly. The stored energy is used for both heating and cooling of the sterilizer.

The water temperature of the sterilization phase usually is 121 degrees Celsius. During cooling, the hot process water flows through the heat exchanger, where it is cooled by cold water from the storage tank. The water in the storage tank thereby absorbs energy from the sterilizer, and heats up again. By using existing cold water from the multilayer storage, manufacturers

New patented energy recovery concept

can reduce the amount of additional, costly cooling medium. An intelligent control system enables the energy to be stored in the storage tank's different temperature zones. After the sterilizer has been reloaded, the energy in the multilayer storage can be reused to heat the process water to 121 degrees Celsius.

A continuous repetition of these process steps significantly reduces the required amounts of heating and cooling media. As a result, up to 40 percent of the initial heating energy can be saved. Thanks to an additional heating exchanger integrated in the storage tank, the saving potential even amounts to

60 percent for cooling energy. "Apart from the saving potential in heating and cooling, a lower amount of overall media consumption also leads to smaller tank sizes," says Alkan. "With these savings, companies contribute to environmental protection and can optimize their 'green' image."

Efficient processes and easy retrofits

Fully automated controls enable operators to comprehensively control and efficiently configure the energy recovery concept. Furthermore, an operator control device, designed by SBM, ensures that the energy

recovery concept can be activated and deactivated at any time, independently from the sterilizer's controls. In case a customer requires simultaneous usage with several sterilizers, additional heat exchangers can be piped to the stationary storage tank. SBM also offers a retrofit package for existing machines, consisting of engineering, delivery, installation, start-up, documentation and qualification according to current pharmaceutical standards.

At Achema 2015 in Frankfurt/Main, Germany, Bosch will present the new energy recovery concept to industry professionals for the first time.

Bosch Packaging Technology D 74554 Crailsheim

Industry Best Practices for Disinfectant Effectiveness Testing

Author: Jim Polarine, Jr., M.S., Carol A. Barnett, B.S., SM (NRCM), & Marc Rogers, Ph.D.

Abstract

Disinfectants and sporicides are critical for microbial contamination control within the pharmaceutical, biotechnology, and medical device industries. GMP manufacturing facilities are expected to demonstrate that the biocides used in controlled environments are efficacious against the facility's environmental isolates on representative surfaces using site-specific preparation methods as described in SOPs. We present common issues highlighted by regulatory inspectors pertaining to disinfectant and sporicide qualification and potential difficulties when performing in vitro efficacy tests.

Disinfectant Qualification

1. In vitro testing

Laboratory testing that demonstrates the effectiveness of chosen chemistries against environmental isolates on representative surfaces specific to the facility.

2. In situ testing

A statistical comparison of the frequency of isolation and the numbers of microorganisms isolated prior to and after implementation of a new disinfectant (data obtained through environmental monitoring).

Why Qualify Disinfectants?

- Regulatory expectation as part of a sound

cleaning and disinfection program – "The suitability, efficacy, and limitations of disinfecting agents and procedures should be assessed".²

- EPA registration requirements for biocidal agents do not address how they are used in the pharmaceutical, biotechnology and medical device industries.

FDA 483/Warning Letter Categories

- No data to support the appropriateness of the biocides used
- Environmental isolates not included in testing
- Coupon materials not representative of floors, walls, and work surfaces in the aseptic processing area including worn or damaged surfaces
- No data to support the expiration date of use-dilutions (e.g., hold time)
- No data to support the contact time (visible wet contact time should be achievable for the time listed in facility SOPs)

Requalification

- Review annually to assess risk and changes that have occurred
- Requalification may be necessary when:
 - New disinfectants are added
 - Environmental bioburden changes and/or inherently resistant organisms are isolated (e.g., *B. cereus*)
 - New surfaces are installed

- Critical parameters in disinfectant use change

In vitro Testing

Most Common Causes for Failures

General:

- Testing biocide against inappropriate microbes
- Using inappropriate methods
- Inadequate planning
- Insufficient contact time

Neutralization:

- Inadequate neutralization
- Neutralizer toxicity

Inoculum:

- Poor viability of inoculum suspensions
- Fungal and bacterial spore suspensions prepared incorrectly

Surfaces:

- Porous surfaces
- Coupons not amenable to steam sterilization
- Uneven inoculation or product coverage due to curvature or surface tension

Recovery:

- Lethality after drying (e.g. *P. aeruginosa*)
- Setting artificially high log reduction targets
- Final plates are not countable
- Recovery method not validated

Key Considerations to Prevent Failures

General:

- Read product labels to understand claims and limitations for each product (e.g., efficacy claims and contact times)
- Use correct chemistry type for targeted organisms (e.g., Do not test 70% IPA or

Industry Best Practices for Disinfectant Effectiveness Testing

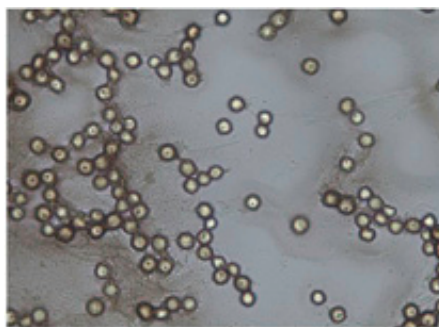
- quats against bacterial endospores)
- AOAC methods are inappropriate for this testing (but some procedures such as prep of inoculum and spore suspensions can be of value)
- ASTM E2197 and EN-13697 methods offer valuable insight into quantitative surface testing
- Do not combine physical removal and chemical kill in one study
- Incorporate expiry dating specified in internal SOPs into the study
- Consistency is crucial to outcome
- Upfront planning is extremely important and some experimental testing may be necessary

Neutralization:

- Neutralization method must be validated
- Both neutralizer effectiveness and neutralizer toxicity must be tested
- Some trial and experimentation may be necessary prior to initiating study
- A universal neutralizer is not available for all disinfectants

Inoculum:

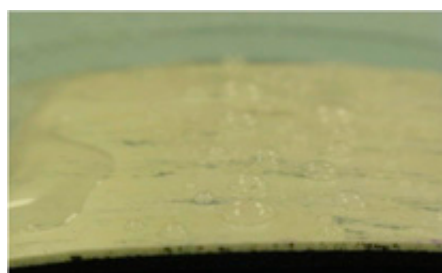
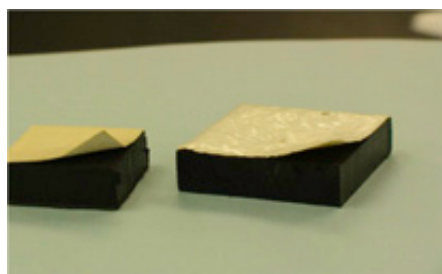
- Prepare bacterial suspensions from 18-24 hour cultures and use immediately to inoculate surfaces; do not use over multiple days
- Use a fungal spore suspension for testing and verify spore content; hyphae/mycelia can prevent the biocide from contacting and penetrating the spores
- Prepare bacterial spore suspensions according to a recommended method such as AOAC; verify $\geq 90\%$ spores



A. brasiliensis spores (1000x)

Surfaces:

- Smaller coupons (1-2 cm) are easier to work with and neutralize
- Remove residues with 70% IPA
- Use alternate sterilization methods (e.g., VHP®, dry heat) if surfaces cannot be autoclaved



Recovery:

- Recovery method must be validated
- Sonication may aid in recovery
- Dry inoculated coupons for shortest time necessary and test immediately
- Evaluate recovery method in experimental studies prior to initiating formal testing

Conclusion

Qualifying disinfectants is a critical step in validating the disinfection process used at a sterile manufacturing facility. Whether or not the in vitro testing is performed in-house or at a contract laboratory, avoiding the numerous issues and difficulties inherent in these studies requires thorough planning, careful attention to detail and vigilance in order to achieve a positive outcome.

Science & Solutions for Life



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Dear subscribers,

today is the 1st advent and I'm looking back to a successful year. I'm looking forward to working together with you in 2015 - reading interesting articles and getting interesting articles from you.

I wish you a relaxing Christmas season, a merry Christmas and health and success in the next year.

Kind regards


Reinhold Schuster



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NEW

If you click at this sign in the pdf-document you will easily get more information in the internet

Objectif « zéro défaut »!

Autor: Marc Kleinklaus, Philippe Roulet-Dubonnet

La libération d'un lot de production sur la base d'un contrôle absolument fiable de chaque pièce est l'objectif de tout responsable du contrôle qualité. Mais les spécifications techniques des laboratoires pharmaceutiques et médicaux atteignent des niveaux de qualité de plus en plus restrictifs ...

Union Plastic développe et produit depuis 50 ans des pièces, des appareillages et des emballages en plastique injecté pour l'industrie de la santé. Pendant un demi-siècle, cette entreprise familiale a donc vu les critères de qualité se durcir. Ce spécialiste certifié ISO 9001, ISO 13485 et cette année ISO 15378, chez lequel 200 personnes produisent en salle blanche, évoque les mesures qu'il a dû prendre pour répondre aux exigences croissantes de ses clients.

« Jusque dans les années 80, les habituels prélèvements lors de la production de dispositifs médicaux étaient suffisants. Ces contrôles en début et en fin d'équipe étaient, à l'époque, le standard pour répondre aux exigences de qualité des articles pour la santé » évoque Fabrice Bourdier, directeur général.

Puis, dans les années 90, les constructeurs automobiles initièrent de nouvelles normes. Pour évaluer le pourcentage de produits non conformes par million de pièces produites, ils créèrent le terme de « ppm » (10⁻⁶) en tant qu'indicateur du niveau de qualité. Pour sauver des vies humaines, l'industrie pharmaceutique et médicale reprit cette définition à son compte. Qui souhaitait garder sa place dans le peloton de tête dû, sur la base de ce critère, revoir tous ses processus de production.

« Pour atteindre, à l'aide de nombreuses petites mesures, l'objectif du « zéro défaut », nous mimons chez Union Plastic des méthodes d'évaluation telles que les AMDEC et des modèles de calcul de Cpk et de Ppk. Mais les analyses de fiabilité nous montrent que les mesures de contrôle qualité jusqu'alors utilisées ne suffiraient pas pour répondre aux nouveaux impératifs. Les opérations de contrôle ne pouvaient plus être

entièrement confiées à des opérateurs, elles devaient être automatisées » indique M. Bourdier.

Les analyses de risque entreprises pour accroître le niveau de fiabilité des processus de production menèrent l'entreprise dans 2 directions. La première consistait en l'intégration de contrôles automatiques à 100%, la seconde en la qualification de toutes les machines sur la base de fenêtres de tolérance résultant de matrices de tests.

De ce fait, dans les 2 sites dans lesquels Union Plastic injecte et assemble des pièces, des postes de contrôle à 100% furent implantés dans les lignes de production. Selon le type de produit réalisé, ces postes se basent sur différentes technologies et contrôlent des cotes, des efforts de frottement, des tenues à l'arrachement, des courses, des débits, des étanchéités, des doses ou la qualité des états de surface.

Les contrôles par vision se sont véritablement développés durant la dernière décennie. Ils profitent des vitesses de traitement croissantes des microprocesseurs, des progrès de l'imagerie, de la simplicité d'utilisation et de la réduction des temps de mise en service. Les contrôles simultanés de cotes, de tolérances, d'état de surface, de la qualité de marquages sont aujourd'hui réalisables en des temps de cycle très courts.

IVD : Micro fluide dans des tolérances de 30µ

Il y a 9 ans, Union Plastic mis en route un système de vision intégrant plusieurs caméras pour le contrôle d'un produit complexe (micro fluide) destiné au diagnostic in vitro. Le temps de cycle - y compris le temps de changement des pièces devant les caméras - imposait que le contrôle de 52 cotes avec des tolérances de 30µ se fasse à différentes altitudes sans changement de focus. Dernièrement, la capacité de production de ces produits dû être augmentée, de sorte qu'il resta 60% moins de temps pour leur contrôle. Aujourd'hui le contrôle de ces 52 cotes se fait „à la volée“ lorsque le robot prélève les pièces dans le moule d'injection pour les trier ensuite par empreinte dans un palettiseur.

Contrôle présence de points noirs de moins de 100µ en moins de 280 ms

Une seringue 2ml nécessite un piston doté d'un joint spécial. Ce joint ne peut être produit sans la présence de micro-bavures qui peuvent se détacher lors de l'extension du joint lors de son montage sur le piston en moins de 280 ms. Plusieurs caméras assurent aujourd'hui une qualité à 100% : en fin d'assemblage elles détectent sur 360°



Kamerakontrolle eines komplexen Teils für die In-Vitro-Diagnostik.

l'éventuelle présence de points noirs ou de micro-fils (taille < 100µ) sur le piston.

Contrôle de la qualité d'assemblage d'un joint en silicone

Union Plastic produit en salle blanche ISO8 des bouchons luer. Après moulage, les corps sont directement acheminés vers une machine d'assemblage. Celle-ci assemble, entre-autres, des joints en silicone. Ceux-ci sont distribués, comprimés et montés dans une gorge intérieure du corps à la cadence de 160 pièces/min. Un palpeur très sensible contrôle la présence du joint dans le corps. Mais l'analyse de risque montra que des défauts matière ou des blessures du joint, même si ceux-ci n'arrivent que très rarement, ne sauraient être détectés. Un contrôle vision fût intégré, lequel différencie les défauts selon 5 niveaux de gravité.

Bruno Dutertre, responsable qualité nous explique : „Sur la base de 2 modes de contrôle des rebuts, une matrice de qualité pilote la ligne de manière sélective. Un mode binaire (OK/NOK) enregistre le nombre total de pièces non conformes et déclenche une alarme ou stoppe la ligne. Ou bien une analyse de criticité est effectuée sur la base de 5 niveaux de gravité à partir des 200 derniers contrôles. Cette analyse signale à l'opérateur qui pilote la ligne si un dérèglement mécanique a eu lieu ou si une usure des outillages est en cours. Celle-ci déclenche alors chez Union Plastic une opération de maintenance préventive avant que les limites de qualité acceptées ne soit atteintes.“

Conclusion

Les systèmes de vision remplissent aujourd'hui une multitude d'opérations de contrôle et il n'est plus envisageable aujourd'hui de les ignorer dans des entreprises de production hautement automatisées. Ils assurent un contrôle fiable de chaque pièce produite et diminuent ainsi les risques d'accident dans le domaine de la santé. L'objectif de chaque responsable des contrôles qualité pourra-t-il ainsi être atteint ou le taux de ppm acceptable deviendra-t-il encore plus sévère ?

Union Plastic Deutschland D 82319 Starnberg



O-Ring-Verletzung (links) im Vergleich zum IO-Teil (rechts).

Variable size clean room cells for a particle-free working environment



Autor: Prof. Knut Ohls

storage box or a mobile clean room station, the Clean Boy (figure 3). In-house metalworking facilities allow custom sizes to be manufactured to meet specific customer needs. Walk-in clean room cells (Figure 4) are made from aluminum section or stainless steel. If the customer requires a GMP version, materials are used that have a surface roughness that is compliant with the GMP guidelines. Flush-fitting ceilings and side walls allow extremely easy, effective cleaning. And sharp corners and edges are always avoided for the same reason.

The use of profile systems allows customers to freely choose the dimensions of the clean room up to a size of 150 m². These clean room cells are an inexpensive alternative to complete clean rooms. As with complete clean rooms, these large clean room cells can also be equipped with pass-through hatches, material airlocks or access airlocks.

The characteristics and quality categories for clean rooms are laid down in the following standards: DIN EN ISO 14644, Part 1 (classes 1 – 9), DIN EN ISO 14698, Parts 1-3 and VDI 2083, Parts 1-18 (classes 0 – 7); US Federal Standard 209E (classes 1 – 100 000) or in the EC GMP Guidelines (classes A – D). The classes in this last document correspond to ISO classes 5 – 8.

Depending on the quality of the ambient air, filtering with the EU 14 filter can achieve a quality corresponding to ISO classes 5 – 8, i.e. one cubic meter of air contains one thousand to one million particles with a diameter of 1 µm. The isolation factor of the Laminar Flow Box is 10³. Thus, if this box were placed in a very good ISO class 6 complete clean room, a cubic meter of air would contain no more than 10 particles, which would be practically undetectable in the box.

The things that have the greatest impact on keeping objects clean are the ambient air and people. Clean rooms are also contaminated as a result of particles being transported through the air, the introduction of particles on technical surfaces and the production of particles by equipment, staff and running processes. In a class 8 clean room, more than 600 million particles (> 0.5 µm Ø) per cubic meter are given off per person per shift by the skin and clothing alone. This figure, along with other counts of particles of the same size given off when staff in protective clothing move (sitting with gentle movement of the lower arm: 20,000; standing up: 50,000 and slow walking: 80,000 per person) is based on data from the Fraunhofer Institute for Manufacturing Engineering and Automation (IPA) in Stuttgart. In addition to microdroplets, dust and smoke particles, the ambient air mainly contains bacteria (~ 0.5 – 50 µm Ø) and viruses (~ 0.005 – 0.1 µm Ø).

Another product in the SPETEC portfolio is the CleanBoy. The curtain bundles the

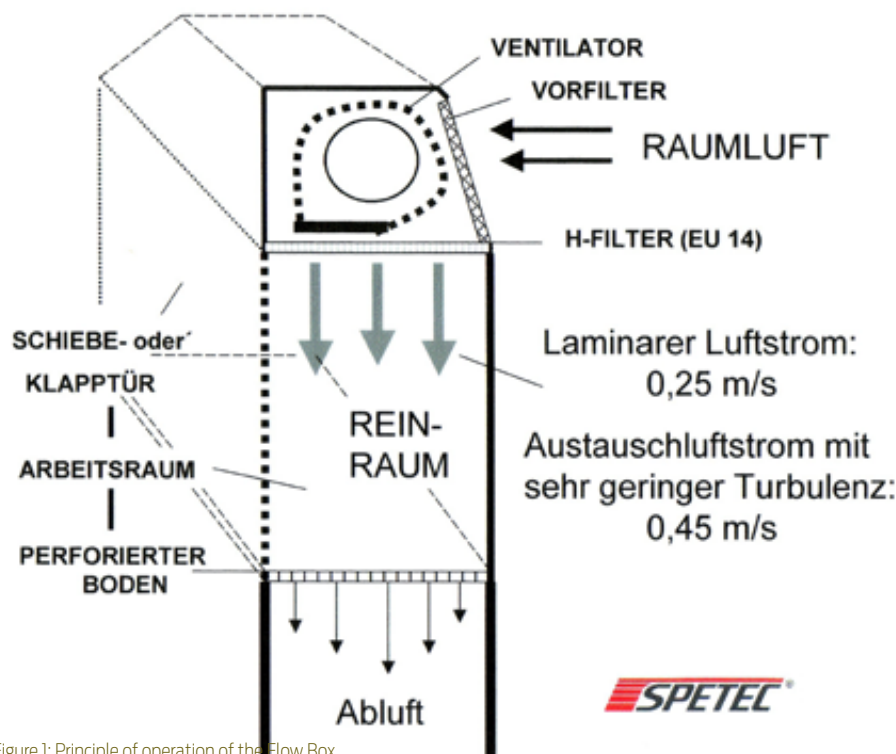


Figure 1: Principle of operation of the Flow Box

For some 15 years now, Erding-based SPETEC Gesellschaft für Labor- und Reinraumtechnik mbH has been designing and building clean rooms of various sizes that allow flexible installation and which are tailored to meet the demands of the specific application and any particular customer needs. These products go under the name „Laminar Flow Box“ and are familiar in a wide range of different sectors. They are used in industries such as electronics and optics, in packaging and in chemical analysis labs, in short, wherever it is necessary or recommended to carry out work in the cleanest possible atmosphere. Another field of application is the storage of equipment or substances that must not, under any circumstances, become contaminated.

The characteristic design feature is the combination of an enclosed space with a module equipped with a high-quality fan and a filter system made up of a pre-filter and a high-performance filter (EU 14). The filter classification EU 14 indicates that this filter is capable of filtering out 99.995 % of all particles with a diameter > 0.5 µm. The size of a module will depend on the content of the

Flow Box. In the case of large clean rooms, known as clean room cells, it is also possible to use several modules in parallel. Today's modules are quiet in operation and feature a filter change indicator.

Two fundamentally different approaches are adopted for delimiting the clean room space: On the one hand, there is the almost fully enclosed space, known as the Laminar Flow Box, and on the other, there is the strip curtain, which allows objects behind the curtain to be picked up from the outside or equipment to be operated or, if the space is large enough, permits a person to actually enter the clean room, which remains flooded with pure air.

An enclosed clean room box (figure 1) has a robust design. Acrylic plastic or laminated glass sheets are fitted into the aluminum or stainless steel frame (figure 2). The frame is plastic-coated to permit handling of aggressive substances. SPETEC manufactures its products in compliance with GMP (good manufacturing practice) standards and is accredited accordingly. Alongside the standard sizes as listed in the company's catalog, a number of options are available, such as a

Variable size clean room cells for a particle-free working environment

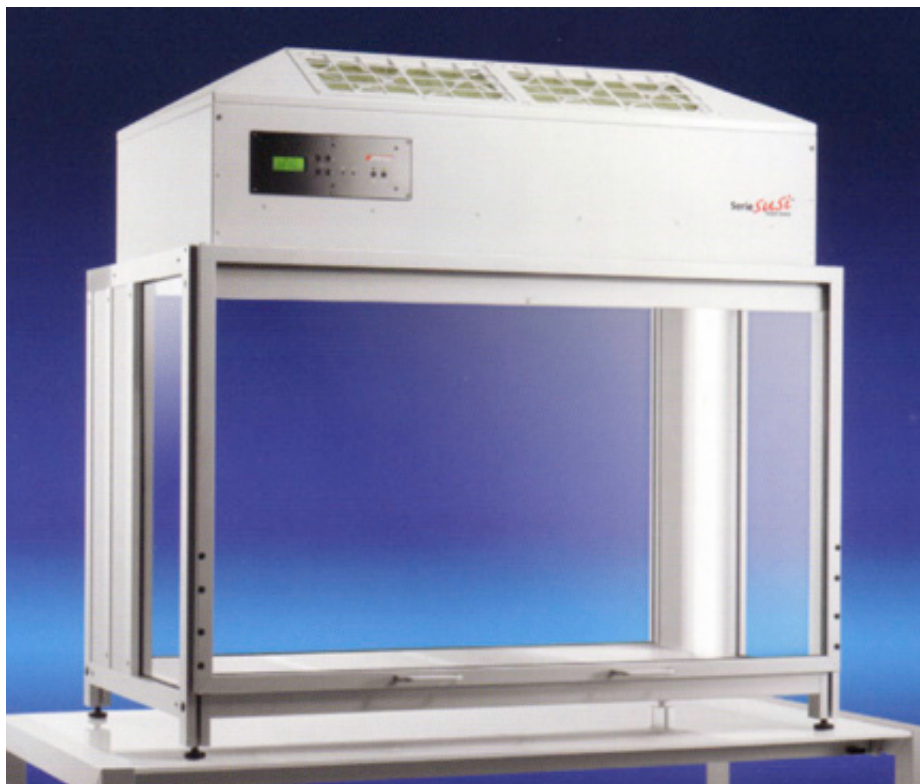


Figure 2: Typical Laminar Flow Box

laminar flow of clean air and largely prevents particles from entering from the sides.

Measurements have shown that even the unprotected flow of clean air generated by the module can reduce the number of particles, largely prevent particles from being disturbed by movement in the work area and deflect microdroplets, skin particles and clothing fibers away from the work area.

Both the Laminar Flow Box and the clean room station are available mounted on trolleys to allow objects and equipment to be moved between different rooms under

clean-room conditions.

Depending on the application, SPETEC can also build and supply portable tabletop exhaust hoods or protective boxes for storing objects and equipment not required on a daily basis. Because we do not expect all customers to be immediately familiar with clean room technology, SPETEC also offers GMP-compliant support from planning and commissioning, right up to quality assurance.

The use of variable clean rooms to supplement expensive complete clean rooms or

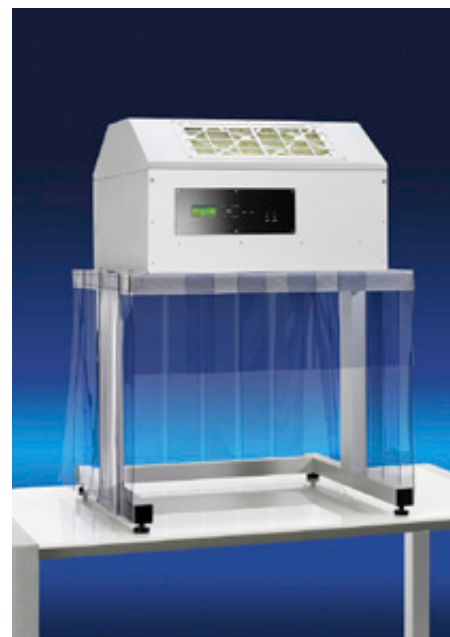


Figure 3: CleanBoy clean room station

as an inexpensive alternative to them has led to the manufacture of ever larger clean room cells to house workbenches, food packaging machines, plastic production machines, filling systems for pharmaceutical products and other valuable apparatus and allow work to be carried out in a protected environment.

The SPETEC clean room system thus also allows special enclosures to be built (figure 4), with the frame made from aluminum or stainless steel section, the side walls from acrylic or laminated glass or stainless steel sheets and where the materials for the door elements, windows and tops can be freely selected. In the example shown, the modules provide a laminar flow of clean air. If equipment is housed in the enclosure, a low-turbulence flow of clean air is recommended to ensure as complete an exchange of air as possible. Enclosures such as these would be ideal for working in under particle-free conditions.

These few examples demonstrate how clean room technology and the resulting constructions have already become important tools in a variety of fields, and it is inevitable that other applications will follow.

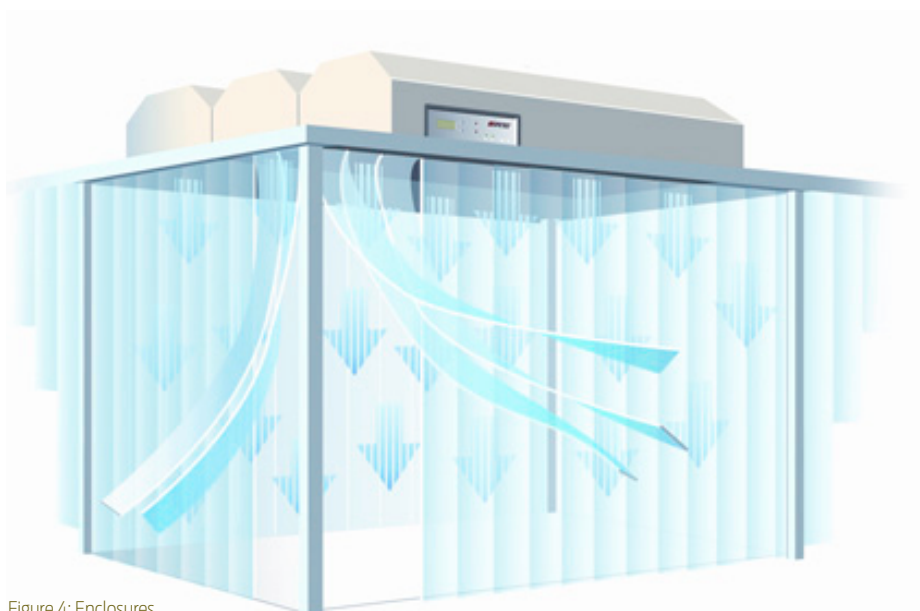


Figure 4: Enclosures



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A comprehensive cleaning solution for „critical“ dental and medical products

Cleanliness adds value in medical equipment manufacturing

Products for use in dentistry and human medicine must meet the most exacting cleanliness standards – e.g., instruments classified as „critical“ have to be sterile whenever they are used. In order to supply such items in an already sterilized state as an additional customer benefit, Gebr. Brasseler GmbH invested in a new cleaning and packaging facility that even includes a cleanroom. Around 12,000 different parts undergo in-process and final cleaning in an array of Dürr Ecoclean solvent-based cleaning systems and aqueous-type ultrasonic ultra-fine cleaning systems made by UCM AG.

The Komet trademark has its origin in 1923, when the Brasseler brothers founded the factory for dental drills bearing their name. Through innovation, precision and high quality, the company has evolved into a globally active manufacturer of medical instruments and equipment. Apart from instruments and systems for use in dentistry and dental technology, Brasseler GmbH & Co. KG's product portfolio also comprises rotary instruments for ENT and neurosurgery, arthroscopic shaver blades, and orthopedic surgery items such as saw blades, guide pins, cannulated screws and wires. Moreover, as a contract manufacturer, Komet makes customer-specific products for use in dental implantology as well as high-precision parts for diverse other branches of industry.

Reliable compliance with strictest cleanliness standards

Although its products are marketed in around 100 countries, the company conducts all development and manufacturing at its Lemgo site, relying on over 1,000 employees and around 1,000 production units. „In order to further improve our customer service, we invested in a new packaging concept and a cleanroom of around 250 sq.m. last year. This will enable us to produce up to 10 million instruments in sterile packaging for dental and medical uses each year. Our part cleaning operations had to be fully revamped as well in this context“, reports Helge Neitzel, Head of Abrasive Instrument Manufacturing at Gebr. Brasseler.

Accordingly, high demands were placed on the new in-process and pre-packaging cleaning equipment. Apart from cleanliness, the specification called for high throughput and availability rates as well as for a flawless technical documentation. Given the diversity of parts and materials – the company produces around 12,000 different items made of carbide metal alloys, stainless-steel and other steels, ceramics and titanium – it was necessary to provide several solvent-based cleaning systems to perform cleaning between the individual process steps. „This allows us to segregate the material flows and hence, to prevent cross-contaminations“, explains Marcus Becker, Cleaning Technology Group Leader at Gebr. Brasseler. Final product cleaning and the cleaning cycle ahead of product packaging in the cleanroom are performed with ultrasonic ultra-fine cleaning equipment using aqueous media. The company also thought it important to source both system types from the same manufacturer.

Cleaning trials and equipment technology tipped the scales

In quest of information relating to eligible equipment manufacturers, the project managers looked around at the parts2clean trade fair. Gebr. Brasseler then performed cleaning tests with six manufacturers. In the end the company opted for Dürr Ecoclean GmbH's solvent-based EcoCBase P2 and Compact 70P cleaning systems. Both models use modified alcohol which removes both polar and non-po-



The first stage of the ultrasonic cleaning system used for final cleaning has three separate tanks. Parts consisting of different materials can thus be cleaned separately.



The equipment controller stores 16 different programs for final cleaning of the diverse parts.

lar contaminants from the product. Cleaning and drying operations are performed under vacuum, so no additional explosion protection is necessary. When it came to the multi-chamber systems for ultra-fine cleaning, the customer chose the solution proposed by the Swiss UCM AG, a Dürr Ecoclean group company. „What mattered to us was the overall package – the advice received, the cleaning test results,

Cleanliness adds value in medical equipment manufacturing

equipment design and technology, the service network, and the price/performance ratio. Their offering matched our expectations exactly“, Helge Neitzel justifies his company's decision.

Reproducible, fast and efficient solvent-based cleaning

Following diverse processing steps such as machining, grinding and coating, approx. 950,000 parts pass the solvent-based cleaning processes in two shifts every day. The control units can store eight cleaning programs each, selectable via a bar code depending on the cleaning step.

For reliable removal of the various contaminants – e.g., machining oil, grease or abrasive residue, chips, particles and chemicals from the galvanizing process – the systems possess two flooding tanks each for the pre-cleaning and main cleaning/degreasing operations. Additional steam degreasing features and ultrasound units ensure that the level of cleanliness required for the next downstream operation will be achieved reproducibly and efficiently. „And all this is performed in short treatment cycles. This is due, on the one hand, to the high vacuum power. On the other hand, the work chamber is filled very quickly thanks to the powerful pumps and large-diameter piping. Indeed, this is a point on which the Ecoclean systems distinguished themselves from competition“, Marcus Becker adds.

Effective reconditioning of the solvent through continuous distillation plus full-flow and bypass filtration likewise contribute to the high cleaning quality. Some filters are equipped with magnetic inserts which improve the retention of metal chips.

Final cleaning with direct transfer into the cleanroom

Among ultrasound-based multichamber systems for ultra-fine cleaning, Brasseler was particularly impressed by the four-sided overflow feature developed by UCM, which is used on all tanks. In every tank, the cleaning or rinsing fluid is introduced from below, moves upwards, and then flows out over the rim on all sides. Foreign matter and particles are thus discharged from the tank without delay. This ensures an intense cleaning treatment of the product while also preventing re-contamination when the parts are lifted out of the bath.

„We found this feature on no other manufacturer's product. A further detail we liked about UCM's system are the so-called medicinal trays. Due to their special design, they prevent disease agents from accumulating and settling in the trays from where they might then contaminate the parts to be cleaned,“ Marcus Becker explains. The quality of the cleaning and rinsing baths is permanently monitored by sensors, even on ultra-fine cleaning processes.

In order to ensure that the segregation of materials achieved at the in-process cleaning level via the use of multiple cleaning lines will be maintained in final cleaning as well, the first cleaning stage comprises three tanks. These are followed by a rinse process, another cleaning step, and three rinsing steps of which the last two are carried out with de-mineralized water. To prevent any re-contamination of the parts in the hot-air drying process, the dryers are equipped with HEPA filters.

The ‚pre-packaging cleaning‘ system is virtually identical. Here, the first cleaning step is carried out in a tray, irrespective of product material. In addition to the HEPA filters, laminar flow boxes are fitted above the last rinsing stage and the dryers. Moreover, the cleaning system and its conveyor unit are fully enclosed to ensure the cleanliness of all products entering the cleanroom.

For their intermediate and final cleaning processes, Gebr. Brasseler work with 16 cleaning programs in each case. Programs are selected via a bar code on the product routing documents, which is read by a scanner. „We can combine up to twelve orders in one batch.



The final cleaning system delivers the product directly into the cleanroom. The system and its conveyor unit are fully enclosed all the way into the cleanroom.



The new cleanroom supports sterile packaging of up to 10 million instruments per year for use in dentistry and human medicine.

The control software checks automatically if all parts are to be cleaned by the same program. If this is not the case, an alarm signal is issued and the process cannot be started“, Marcus Becker explains.

Equipment qualification, process development and validation

Except for one solvent-based system, all new cleaning equipment was qualified in compliance with EU and FDA (U.S. Food and Drug Administration) rules and the cleaning processes were validated accordingly. „Dürr Ecoclean and UCM cooperated with us in carrying out the necessary DQ, IQ and OQ qualification steps and in preparing the requisite documentation. They also helped us develop the diverse cleaning processes. Actually, the new equipment provides us with cleaning capabilities which exceed our current needs. We consider this an investment in the future, just like the new packaging solution and the cleanroom. It all helps us to further expand our market position,“ Helge Neitzel concludes.

Gebr. Brasseler GmbH & Co. KG D 32631 Lemgo

RAUMEDIC AG celebrated the topping-out of their extension building at the company headquarters. The polymer specialist for medical engineering and the pharmaceutical industry is investing 26 million euros in a new building with production areas in clean rooms, manufacturing facilities, a laboratory and office spaces.

Topping-out ceremony for the RAUMEDIC AG company expansion

The building principals and the project team invited the participating craftsmen, architects and other representatives of the trades, as well as representatives of the A9 special purpose association, to celebrate the successful construction process.

Martin Silbermann, RAUMEDIC AG project leader, welcomed the guests and praised everyone involved for their excellent cooperation in the construction, which has been proceeding rapidly. As the representative of the building principals, Michael Stellwag, commercial director of the construction cli-

ent, expressed his thanks to the companies and workshops.

The following raising of the topping-out wreath, the accompanying topping-out speeches and a traditional topping-out feast rounded out the celebrations.

The construction work should be sufficiently complete by spring next year for the production of medical and pharmaceutical components to begin on time.

Raumedic AG
D 95233 Helmbrechts



Fakuma 2014 with Record Breaking Numbers

Best Fakuma Ever

13th - 17th October 2015:
Fakuma 2015, Friedrichshafen (D)

Shapes, functions, colours, Fakuma – with exactly 45,689 expert visitors from 117 countries and 1772 exhibitors from 36 nations, the Fakuma international trade fair for plastics processing has definitely found its way into the history books for technical industry events at the international level. Due to record numbers experienced in recent years thought to have reached their peak, the 23rd Fakuma evolved into an absolute winner last week in the field of plastics technology and attracted more expert visitors than ever before. Reaching levels that had certainly not been anticipated by anyone, although perhaps hoped for secretly, and in the end impressively confirmed, 33% of the officially counted 45,689 expert visitors came from foreign countries near and far, so that Fakuma has once again expressed its exceptional positioning and has even been able to top last year's figure of 31% foreign visitors.

And thus it's quite befitting that the spokesperson of Fakuma's exhibitor advisory committee, Ulrich Eberhardt, was able to report strong figures for the industry sector on the one hand, as well as continuing satisfactory business developments on the other hand, and otherwise excellent acceptance of

Fakuma as a globally recognised business platform for all of the players involved in the plastics industry. Beyond this, he provided a brief insight into the secret behind Fakuma's success, which he accentuated as "a marketplace for innovative solutions covering all aspects of injection moulding, thermoforming and extrusion, as a trend barometer for the industry and as a lastingly important trade fair for suppliers and users of plastics technologies. At the same time, event promoter Paul E. Schall has succeeded in retaining Fakuma's distinctive character, charm and charisma, as well as its very personal and relaxed atmosphere, despite its outstanding, globally significant market positioning", explained Ulrich Eberhardt.

In reviewing Fakuma's development in recent years it becomes apparent that, with the exception of the decline in 2009 due to the recession, exhibitor numbers, exhibition floor space, visitor numbers and foreign participation have demonstrated continuous growth. Available exhibition floor space at the highly modern Friedrichshafen Exhibition Centre has been fully booked out at Fakuma for years, and even reserve floor space in the foyers at the east and west entrances was occupied in 2014 in order to provide a few aspiring exhibitors who had been placed on the waiting list with the opportunity of

presenting their technologies, processes, products and services.

Important issues at Fakuma 2014 included the integration of functions with simultaneously improved energy and resource efficiency (for example by means of particle-foam composite injection moulding or finely structured thin-walled components), increasing use of 3D printing, as well as additive and generative processes for prototyping and production of small lot quantities, not to mention metal-plastic combinations, hybrid solutions and fastening/joining processes. As part of the Blue Competence initiative of the VDMA Expert Association for Plastic and Rubber Processing Machines, numerous exhibitors presented their latest developments, thus underscoring their intention and ambition to reconcile technology and environment to an ever greater extent. Beyond this, many exhibitors make targeted use of Fakuma as an adequate setting for unveiling their world's firsts and innovations to international expert visitors, which is also indicative of Fakuma's international significance. The next, i.e. the 24th Fakuma will take place from the 13th through the 17th of October, 2015, at the Friedrichshafen Exhibition Centre.

P. E. Schall GmbH & Co. KG D 72636 Frickenhausen

We proudly present... the winner of the DeviceMed Awards at Compamed 2014: RauSafe® is an injection system with efficient protection against needle stick injuries. The DeviceMed Award was presented at Compamed for the third time. RAUMEDIC received the coveted award in the category of medical devices and accessories.

RAUMEDIC RauSafe® wins the DeviceMed Award at Compamed 2014



Dr. Thomas Jakob, Director of Moulding/Pharma Solutions, accepted the prize from Peter Reinhardt, Chief Editor of DeviceMed. (Picture: DeviceMed)

The award, which was presented as part of Compamed, rewards the most innovative exhibits and exhibitors in five different categories. Compamed is the international trade fair for the medical engineering supply industry, taking place every year at the same time as Medica, the world's largest medical engineering trade fair in Düsseldorf.

RAUMEDIC received the award for the RauSafe product, an active needle safety system which provides effective protection against needle stick injuries.

RauSafe offers users and patients safe protection with easy, intuitive use. The safety system is activated after the injection by simply pushing it forwards. As soon as the needle is fully enclosed, the system latches permanently in the final position, which the

user can hear and feel. The needle stick protection system can also be adapted to various existing syringes on the market and is built in such a compact way that it is frequently possible to retain the standard packaging. With RauSafe, this medical engineering company developed a needle stick protection device that differs significantly from the products available on the market. Other systems are either complicated and expensive or are simple but not sufficiently reliable. RauSafe combines the positive characteristics: it is easy to handle and offers safe protection against needle stick injuries.

Dr. Thomas Jakob, Director of the Moulding/Pharma Solutions business unit, accepted the prize on behalf of the project team. His thanks went out to his colleagues: „This is a great award for RAUMEDIC. Without the team's excellent cooperation, it would not have been possible to realize this innovative system.“

Raumedic AG D 95233 Helmbrechts

Gerresheimer put a new production line for its famous Gx RTF sterile syringe systems into operation this year. At Pharmtech in Moscow the Gerresheimer experts explained the optimizations that can be achieved with the new line and how syringes meet the different requirements of biotech and ophthalmic applications. A special presentation also illustrated the advantages of Gx MultiShell plastic containers.

Pharmtech 2014: a new syringe production line for Gerresheimer

High demand for ready-to-fill syringes

“The applications for ready-to-fill syringes are becoming increasingly extensive and diverse,” said Bernd Janas, Vice President Sales Syringes at Gerresheimer Syringe Systems, explaining that Gerresheimer's Gx RTF (Ready-To-Fill) syringes offer customized solutions for many different sectors such as biotech and ophthalmics.

The fourth production line is located in a brand new production bay at the Gerresheimer Competence Center for Ready-to-Fill Syringes in Bünde (Germany). It is associated with some decisive process improvements, including the avoidance of glass-glass and glass-metal contact through the use of pick-and-place and segment transport systems. The washing and siliconization processes have been optimized, and more effective, camera-based quality inspections have been

introduced. The camera system, which was developed by Gerresheimer, can identify cracks the size of a very fine hair.

Gx MultiShell - as transparent as glass but unbreakable

On November 27 Dr. Wolfgang Dirk made a presentation on “Improved Barrier Performance of Parenteral Plastic Containers“ at Pharmtech. “With some pharmaceuticals, such as biopharmaceuticals and cancer therapy drugs, you have to ensure that the packaging is safe and secure in every respect,” said Wolfgang Dirk, referring to the properties of the GX MultiShell vial that Gerresheimer developed for this purpose. The vials have an inner and outer COP layer with a center polyamide layer sandwiched between them. This triple layer design gives the vial unprecedented stability. MultiShell vials also have a far more effective oxygen barrier,



which helps to maintain the stability of the pharmaceutical drug.

Gerresheimer AG D 40468 Düsseldorf

Long-term involvement in a dynamic market

Concept Laser sets up US subsidiary

Concept Laser hopes to assure itself a long-term position in the US market now that it has founded a new subsidiary in the states. Demand for LaserCUSING systems in the US was already high in the past. Developments over the last 2 to 3 years have made it necessary to create a regional structure so that sales and service tasks can be quickly dealt with on site. The new subsidiary is located in Dallas (Texas) and was officially inaugurated on August 1, 2014 under the management of CEO John Murray.



Company founder: John Murray, CEO of Concept Laser Inc., Dallas (Texas, USA): „Concept Laser is driven by technology, not capital“ (Photo: Concept Laser GmbH)

The fact that US markets are developing dynamically with regard to additive manufacturing strategies is no longer insider knowledge. The main impulses keep coming from the field of aerospace. The US aerospace sector systematically „calibrates“ its manufacturing strategies toward additive approaches like no other country in the world. Other important branches of US industry, such as automotive or medical technology, are now in the process of adapting the new possibilities created by additive manufacturing.

The US government places importance on new strategies in manufacturing

The high level of significance attributed to additive manufacturing in the US can be explained according to political motives. For instance, in 2013 Barack Obama's government already announced that it would invest US \$ 200 m to set up three new institutes that specialized in additive manufacturing, lightweight composites and new energy sources. These three new key technologies are generally considered to be decisive industrial value drivers for the future.

Long-term involvement

Concept Laser has stated that thorough preparations were made before starting to form its own structure in the US. Firstly, because the company wants to promote itself in a sustainable and professional manner and secondly, because the headquarters - a pioneer in laser melting - wants to demonstrate its technological expertise, which is based on numerous patents. The new venture in the US was planned well in advance: when the US subsidiary was founded over 40 LaserCUSING systems had been installed there. As a medium-sized company run by its owners, they are, according to John Murray, not obliged to be listed on the stock exchange but instead can reinvest the revenue in fields of the future such as product development and R&D. John Murray: „Concept Laser is driven by technology, not capital.“

Further expansion is planned

Now the first step has been taken, the

management team at Concept Laser expects the capacity of the US business to be extended even further. However, they do not want to neglect the European markets and intend to continue adapting the structure according to market requirements. In the short term, the company will be strengthening regional activities in China, at the Ningbo office, in order to ensure short pathways to the customer in all three important industrial regions of the triad. The task of the regional management team will be to enable service functions and fast responses to customer demands while at the same time improving communication with users and allowing a high level of information exchange. „With our headquarters serving the European market, a new branch office in the US and an established branch office in China, we are now active in three significant regions around the world,“ said Frank Herzog, President & CEO of Concept Laser GmbH.

Concept Laser GmbH
D 96215 Lichtenfels



John Murray, CEO of Concept Laser Inc., (left) and Frank Herzog, President & CEO of Concept Laser GmbH (right), are pleased about the first installations of the X line 1000R in the US (Photo: Concept Laser GmbH)

An innovative solution for smaller sterile clean rooms

Easy to use, practical and effective



Autor: Margarete Witt-Mäckel

Cleaning and disinfecting smaller sterile productions, such as chemists, has special challenges for process planning and employees alike. Innovative cleaning equipment such as the EasyMop® GMP system can provide advantages here in terms of application safety, efficiency and cost effectiveness during the cleaning and disinfecting process. Small clean room productions can comply with regulatory guidelines in their cleaning processes with certainty and make the work processes easier due to smart equipment.

Easy and practical solutions for GMP-compliant cleaning and disinfecting are needed above all in smaller sterile areas, such as chemists. Many such statutory regulations are easy to implement for pharmaceutical operations with a high degree of automation and specialising in one or just a few pharmaceutical products. For smaller sterile rooms with a high level of manual work and constant change in the work flows, however, it is a big challenge. The measure which initially appears easiest, that of cleaning and disinfecting the room surfaces, is no exception here. The pre-prepped EasyMop® GMP is an innovative solution which gives users the possibility to meet GMP in a practical way whilst providing valid safety in the process.

GMP-conform

Any materials and equipment used in sterile GMP rooms must not themselves be a source of particles or micro-organisms. In addition, they must be sterile-or sterilisable-, easy to clean and resilient to the usual cleaning agents and disinfectants. In summary, the entire mopping system must correspond to the current cleanliness requirements, may not have a negative influence on the manufacturing process and the products produced and must provide high effectiveness and process safety in relation to the activity in question. As with all processes, the cleaning and disinfecting measures must be validated and the properties assigned to the operating means must be verified as being present. All components in the EasyMop® GMP system are correspondingly rated and inspected.

Requirements of small rooms

In addition to complying with regulations, smaller clean rooms operators are confronted with very different, important issues such as space and logistics. The most optimal mopping systems are those which require little space and are easy to use but still are highly efficient and high-performing without being logistically too complex. The pre-prepped EasyMop® GMP has achieved an advance here with its mop covers that can be prepared ahead of time for the work week in the EasyMop® GMP System box, and then the equipment can be left sitting at the ready in the sterile area. This avoids the time-consuming daily loading. And, all of the advantages of the EasyMop® GMP method can also be applied to small sterile rooms.

Disposable or multiple-use mop covers – a question of application

The main application purpose of a mop cover is to clean away contamination and/or to apply disinfectants. In addition to the suitability of a mop cover for use in a sterile clean room, the suitability of the mop cover for planned activities in this area is very important. For efficient cleaning and disinfection, impregnating the mop cover evenly and sufficiently as well as sufficiently spraying the surface with the fluid and thereby also applying the active substances is a prerequisite. Whilst multi-use mop covers have a significantly higher

surface performance and efficiency in cleaning and disinfecting, in many areas where critical substances such as cytostatic or biological agents are used, disposable mop covers are preferred due to safety concerns. In contrast to the floor mop cloths, the use of disposable mop covers takes place without contact. In addition, they demonstrate better surface performance and more efficacy. To meet the varying requirements, different types of mop covers are offered for the pre-prepped EasyMop® GMP, depending on the application area, all of which are compatible with the system.

Executing the pre-preparation

The validation of the advanced preparation is determined by the use of defined parameters, such as the amount of time the system boxes are left sitting and the storage time of the system boxes, in order to achieve an optimal spraying of all mop covers. This means that the method takes place according to predefined work guidelines (see figure 1).

The system box is initially filled with a defined volume of application solution and then fitted with the pre-calculated number of mop covers (maximum of 10). After filling the system box, it is tightly sealed by closing the special fasteners. The triple sealing of the cover guarantees that the system box is securely closed and that the microbiological safety is maintained [2, 3] which is decisive for the storage of the impregnated mop covers over the work week. After sealing the system box, it is rotated. The system box remains in this position until the mop covers are removed. If mop covers remain in the system box, it is again rotated on its head and stored this way until another cover is removed. After opening the system box, the pre-impregnated mop cover is removed without contact and the intended surface mop-



Easy to use, practical and effective

ped. As soon as the spraying is no longer even and mopping streaks can be seen, the mop cover must be changed. Because of the system, it is no longer possible to re-dip or reuse the now „empty“ mop cover. This prevents cross-contamination with certainty.

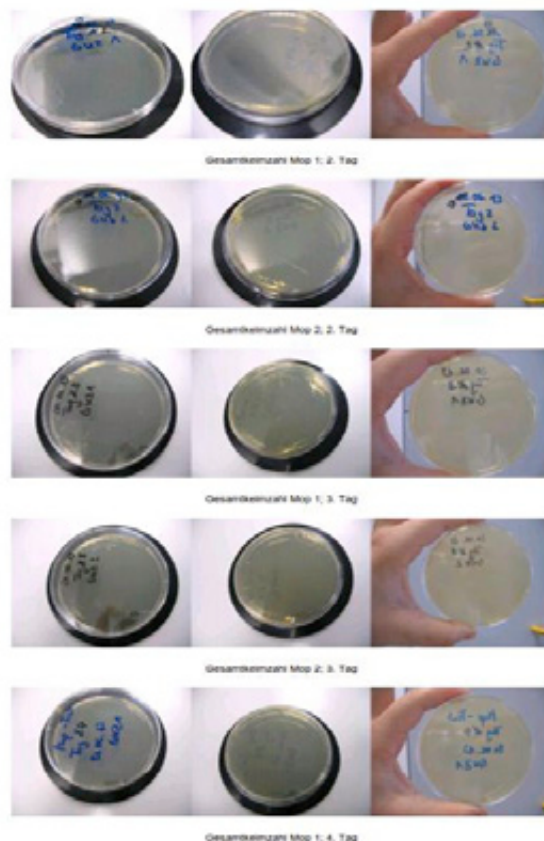
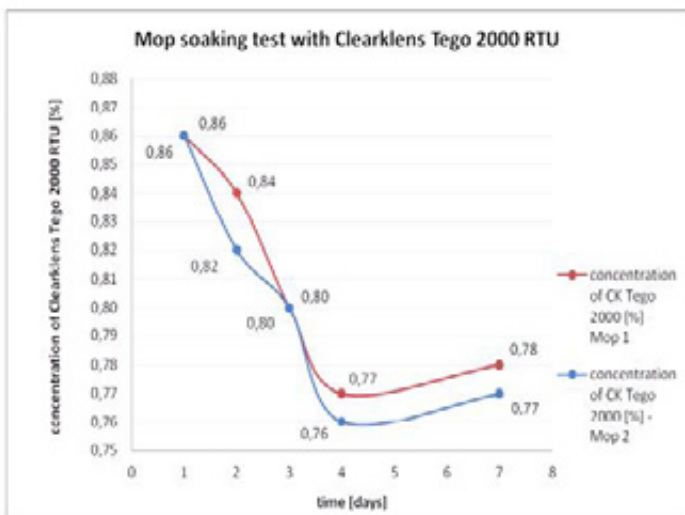
Leaving pre-preparation sitting over a work week: Immanent contamination risk in the system?

The pre-preparation of multiple mop covers in a closed system and leaving the entire system parked in the clean room is a particular advantage of the innovative EasyMop GMP® System box. It avoids important sources of error – but only if this process does not itself result in a microbiological contamination or a dilution of the efficacy of the disinfectant. basan, the clean room division of VWR International GmbH, initiated a cooperative study [3] with the Diversey and Pfennig Reinigungstechnik GmbH companies to test if this was the case. The aim of this study was to prove that by using the new EasyMop® GMP System box, no additional risk of contamination occurs. In addition, it was to demonstrate that allowing it to sit for an additional length of time has no effect on the disinfecting action of the solution used and that the active ingredient remains sufficiently active to prevent the growth of microbes in the solution as before. Ten sterile mop covers were placed according to the procedural guidelines into the EasyMop® GMP box and impregnated with 4 litres of sterile disinfectant (ClearKlens Tego 2000 RTU). From Tuesday until Monday (extending the time left sitting to seven days), two mop covers were removed and wrung out daily. The amount of amphotensides in the wring-water was exactly traced and the total bacterial count determined microbiologically. Each mop cover was wrung out individually using a funnel in a re-closable glass jar. The concentration of disinfectant in the wring-water was determined for each glass jar content. Another millilitre of wring-water was swiped onto a sterile disposable petri dish prepared with CASO agar and left to grow for 48 hours (see figure 2).

The evaluation of the nutrient medium over the entire study period showed that no culture grew on the agar that had been swiped with wring-water (see figure 3). The study demonstrates convincingly that the EasyMop® GMP System box is a safe system, entailing no system-immanent risks for microbiological contamination.

Conclusion

EasyMop® GMP provides a system that not only meets all guidelines of relevant regulations but also offers a safe and efficient solution for operators of smaller sterile clean rooms, such as chemists. The well-conceived equipment offers advantages in process safety by



being an integrated system that can be autoclaved and parked in the clean room, where it is demonstrably safe to be left sitting over the work week. The logistical construction of the system also offers far-reaching benefits for operator safety – an important aspect for smaller sterile productions where manual processes are sensitive to errors. The working processes are easy to learn, which avoids mistakes such as insufficiently applying or releasing the active disinfectant, or unsanitary work caused by re-dipping. By using this qualified and flexible system in combination with highly effective cleaning agents and disinfectants you will be able to meet the constantly increasing requirements for sterile clean rooms.

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Since 1979 Austrian sensor specialist E+E Elektronik has been developing high precision sensors and transmitters for a variety of measurements. The company combines its many years of experience in thin-film technology with the latest production processes and the highest quality standards. The result is innovative and reliable products for particularly demanding applications in industry, HVAC or the automobile sectors. Visitors to the E+E booth in hall B1 / booth 415 had the opportunity to find out about the following new developments:

E+E Elektronik at the Electronica 2014 trade fair



**08th - 11th November 2016:
electronica 2016, Munich (D)**

Contamination-resistant air velocity sensor for demanding applications

The new VTQ is a thin-film sensor, combined with the latest transfer molding technology. Its innovative flow profile gives the sensor element a particularly high level of contamination resistance. The VTQ is therefore ideal for use in harsh conditions. Other features of the sensor include outstanding reproducibility of the sensor characteristics, rapid response time, low angle dependence and a wider measurement range up to 20 m/s.



Figure 1: VTQ air velocity sensor (Photo: E+E Elektronik GmbH)

Next generation miniature humidity sensor

With the HC801, E+E Elektronik presents its smallest humidity sensor for mass applications to date. The miniature sensor is manufactured in thin-film technology based on silicon and is only 300 x 765 µm in size. Maximum reproducibility of the sensor characteristics and linearity across the entire measurement range, as with all humidity sensors in the HC series, are further benefits of the new sensor element.

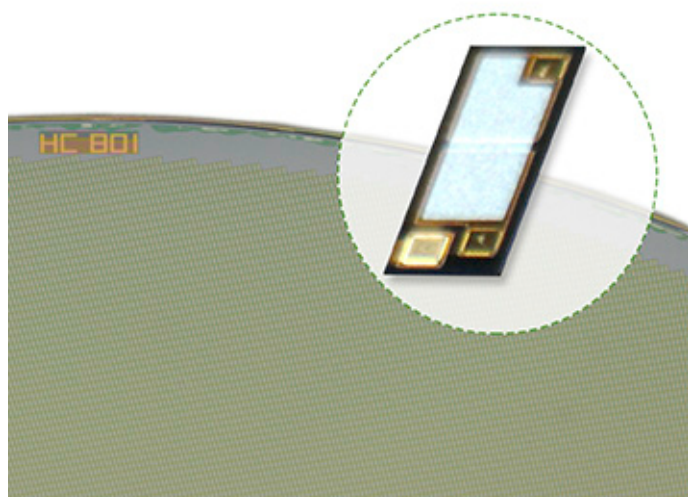


Figure 2: Miniature humidity sensor HC801 for mass applications (Photo: E+E Elektronik GmbH)

Compact CO2 sensor module for OEM applications

The digital EE893 CO2 sensor module is based on the NDIR dual wavelength procedure and was developed especially for OEM applications. Auto-calibration and temperature compensation ensure long-term stability and high precision measurement results. Thanks to its very small dimensions and low power consumption, the module is suitable for use in battery-operated devices such as wireless transmitters, hand-held transmitters or data loggers.



Figure 3: EE893 CO2 sensor module for OEM applications (Photo: E+E Elektronik GmbH)

HVAC humidity & temperature transmitter for duct mounting

With the EE150, E+E Elektronik is launching a compact humidity & temperature transmitter optimised for the HVAC sector. Thanks to the external mounting holes, the transmitter housing remains closed during the mounting process. The electronic components are therefore optimally protected against contamination on the construction site. The high precision E+E humidity sensor wins out with exceptional long-term stability and high resistance to pollution.

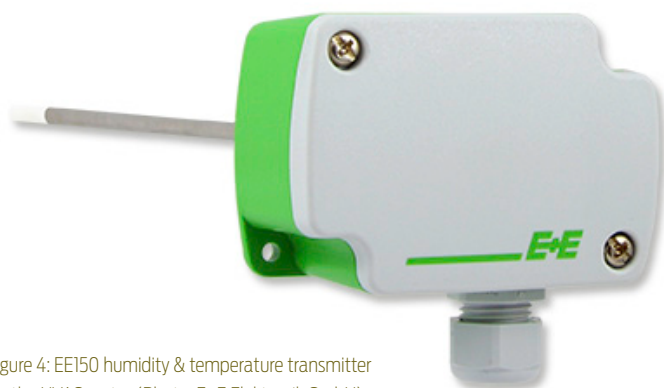


Figure 4: EE150 humidity & temperature transmitter for the HVAC sector (Photo: E+E Elektronik GmbH)



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Impressing over 220 trade visitors

Arburg Packaging Days 2014

- Experts from all over the world travelled to Lossburg for the packaging conference
- Exciting presentations and live demonstrations
- Arburg demonstrated the latest developments for the packaging industry jointly with partners

From Brazil, the US, Finland and Portugal to China and South Korea – more than 220 packaging experts from more than 30 nations came to Lossburg for the “Arburg Packaging Days 2014”. The packaging technology conference, which was held for the first time on 5 and 6 November, offered guests interesting specialist presentations, innovative live demonstrations and the opportunity for a lively exchange experiences.

“We are delighted that so many experts from around the world have come to Lossburg for the Arburg Packaging Days 2014,” said Helmut Heinson, Managing Director Sales at Arburg, as he welcomed some 220 international guests on 5 November. “Topics such as machine availability, production efficiency and service and spare parts supply are particularly important in the packaging industry. Our aim is to examine all of these aspects in detail during the international conference.”

Specialist presentations and machine demonstrations

The focus lay on the topic of production efficiency, which was considered all along the value chain. Arburg offered a live presentation of four injection moulding solutions for the cost-efficient production of thin-walled containers, closures and other packaging items. In a series of specialist presentations, internal and external speakers explained market trends and technical solutions. Moreover, guests had the opportunity to hold discussions with the experts

and to take a look behind the scenes at the German machine manufacturer’s headquarters. “Our first event to focus specifically on the topic of packaging attracted a number of well-known customers and speakers,” summarised Andreas Reich, Senior Sales Manager Packaging at Arburg. “We showed in very practical terms how we have adapted our modular injection moulding technology to the specific needs of the packaging industry in recent years and the response has been extremely positive overall.”

One example of this is Kevin Chew, Technical Manager at Apex Plastech, Thailand, and a speaker at the international conference in Lossburg: “We have been using injection moulding machines from Arburg for the past three years and have already become major fans. As well as the reliable machine technology, we are particularly impressed with the company’s personnel, who support us with great expertise whenever we need it and who have our absolute trust. In his presentation, he explained how his company has managed, with Arburg’s help, to switch to the packaging industry, becoming one of the leading manufacturers in this area

in Thailand.

Innovative packaging applications

Arburg demonstrated a system built around a hybrid Allrounder 720 H in the “Packaging” (P) version as an example for the drinks industry. A 72-cavity mould from z-moulds was used to produce so-called PCO-1881 closures for carbonated soft drinks (CSD) in a cycle time of only around 3.5 seconds. Downstream, a closure cooling unit made by eisbär Trockentechnik and an optical quality control system from Intravis were also on view.

A hybrid Allrounder 720 H, also in the “Packaging” (P) version, equipped with a mould from Roth Werkzeugbau, produced four 200 millilitre thin-walled barrier containers in a cycle time of 5 seconds. Thanks to the use of so-called “full cover labels”, these containers are also suitable for oxygen- or light-sensitive products. The special labels required a special insertion method, which was implemented in the IML system from Waldorf.

Arburg used a high-speed application to demonstrate the potential of the high-performance electric Alldrive machine series. An electric Allrounder 820 A with a clamping force of 4,000 kN and a size 2100 injection unit, equipped with a 24+24-cavity mould from Fratelli Bianchi produced 24 ready-to-ship cutlery sets in a cycle time of around 5.5 seconds. This corresponded to an output of around 31,500 parts per hour. Removal and packaging in PP film were handled by an automation system from Campetella Robotic.

The fourth application in the Customer Center demonstrated the cost-effective production of thin-walled tubs. In addition, a hybrid Allrounder 570 H and a mould from Kebo were in action, on which the number of cavities can be varied. With this flexible test mould, Arburg actively promotes internal process acceptance processes, as well as the further development of its own machine technology.



The Arburg Packaging Days event also included a varied programme of side events that allowed guests plenty of opportunities to exchange experiences, as well as an evening event at the Customer Center. (Photo: ARBURG)

ARBURG GmbH + Co KG
D 72290 Loßburg

Arburg at the Arabplast 2015 in Dubai



- Presentation of the product and service range
- Focus on individual consulting
- Best local support from Arburg subsidiary

Arburg will be exhibiting at the Arabplast in Dubai from 10 to 13 January 2015. At exhibition stand 5C124 in Hall 5, trade visitors will have the opportunity to find out all about the range of Arburg products and services and receive individual consulting from the Arburg experts.

**10th - 13th January 2015:
Arabplast 2015,
Dubai (Saudi-Arabia)**

Arburg has been represented with its own subsidiary in the United Arab Emirates since 2009. Customers in the Arabian countries receive intensive support from the Ras Al Khaimah site. "We offer them both a comprehensive on-site pre and aftersales service as well as application technology consulting on all areas of injection moulding," explains the subsidiary's Managing Director Joachim Branz. "With our high-tech modular hydraulic, hybrid and electric injection moulding machines, we are ideally positioned to implement customised injection moulding solutions and to fully meet the high demands of the Arabian market. For the dominant packaging and medical technology industries we offer specially equipped machines, for example. This is complemented by specific production cells. Responsibility for each turnkey solution, in which upstream and downstream steps can be integrated, rests completely with Arburg - from consulting and planning through to implementation and commissioning."

„Packaging“ version: high performance and speed

For the packaging industry, the Arburg range includes a "Packaging" (P) version of the hybrid and electric Hidrive and Alldrive high-performance machine series. These machines combine high productivity with reduced energy consumption and are characterised by a well-balanced combination of distance between tie-bars, clamping force and opening stroke. Moreover, they provide fast, precise, energy-saving mould movements (through servo-electric toggle-type clamping units), high plasticising flow rate (through barrier screws and servo-electric dosage drives), dynamic position-regulated screws and effective injection volume flows.

Medical technology concepts for all requirements

In the field of medical technology, the requirements set by the OEMs and users must be precisely met. Thanks to the modular product range from Arburg, production solutions can be configured, which are very precisely adapted to the production requirements of the customers. The equipment options range from a stainless steel clamping unit, clean room modules with air ionisation through to the clamping unit and corrosion-resistant, coated mounting platens. A variety of clean room concepts can also be implemented. These extend from machines and production cells with modular clean room equipment, which are docked to a clean room, through to injection moulding solutions which are fully contained in the clean room.

Consulting at the Arabplast

At the Arabplast 2015, the focus will be on individual customer consulting. "This is not limited to the machine and application technology, but also includes the overarching topic of production efficiency," explains Joachim Branz. "This is because, in order to achieve cost-effective moulded part production, the entire value-added chain must also be taken into account." In this context, he also mentions the know-how of the employees, which should be invested in on an ongoing basis. For this purpose, Arburg offers comprehensive training offerings, including individually tailored courses on the customers' premises.

ARBURG GmbH + Co KG
D 72290 Loßburg

Gerresheimer specializes in glass and plastic pharmaceutical packaging products and is well-positioned in the Indian market with its Neutral Glass plant in Kosamba and its Tri-veni plant for plastic packaging products in Kundli. The pharmaceutical packaging specialists at these facilities have access to the entire Gerresheimer Group's packaging know-how. And local presence offers valuable benefits to Gerresheimer's customers.

Gerresheimer will be presenting its product portfolio for the Indian and Asian markets on Stand V3 at the CPhI (Convention for Pharmaceutical Ingredients) in Mumbai, Bombay Exhibition Centre from December 2 to 4. The following products are just some of the highlights at the Gerresheimer stand.

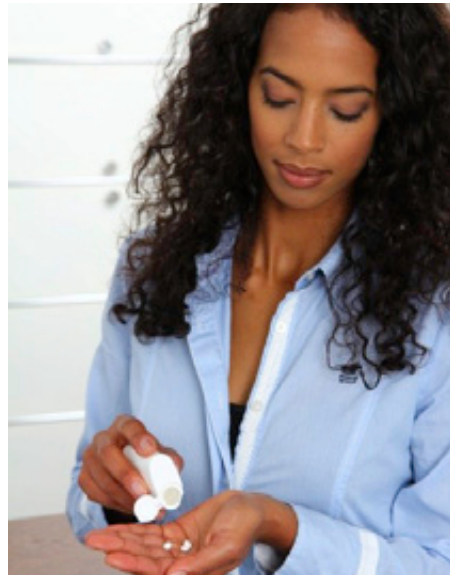
Gerresheimer manufactures pharmaceutical packaging products in India

CPhI India 2014

02nd - 04th December 2014: CPhI India 2014, Mumbai (India)

Pharmaceutical glass containers for the Indian market

"Being close to our customers is one of our strengths. We understand how to cater to local market requirements and, as a result of our global presence, we can effectively advise and support both domestic and international customers," said Rizos Matikas, Chief Manager Marketing & Sales in Mumbai for Gerresheimer at Neutral Glass & Allied Industries Pvt. Ltd. Two years ago, the Gerresheimer Group extended its global glass pro-



CPhI India 2014

duction operations by acquiring a majority shareholding in Neutral Glass. The international Gerresheimer portfolio now includes a comprehensive range of pharmaceutical glass containers which are specifically in demand and used in the Indian market.

Pharmaceutical plastic packaging and closure systems

Cutting edge & pioneering technology, consistent quality and high standards of service is what the Triveni brand is known and stands for. "We are ready to exceed the expectations of our customers. Their satisfaction is our reward", said Mr Subodh Gupta, M.D. Gerresheimer at Triveni Polymers Private Limited. Triveni, a Gerresheimer group company is a leading manufacturer of pharmaceutical plastic packaging products and closures, and its production facility in Kundli, India. They are the first Indian company in the country to file DMF with US FDA for Type III packaging components for the regulated & Indian market. The company's plastic packaging specializes in solid (container closure systems with CR, CT & desiccant embedded caps), liquid, ophthalmic application and plastic vials. Leading brands are 'Triveni', Duma and Dudek for solid dosage, edp branded PET bottles for liquid dosage and their range of ophthalmic products. Their plastic vials branded MultiShell are specially designed for sensitive parental drug formulations. It's one of the most comprehensive portfolios from a single company, available to the customers today.

Gerresheimer AG
D 40468 Düsseldorf



Pour la première fois, ACHEMA 2015 braque les projecteurs sur trois thèmes principaux : la technologie analytique des processus (PAT), le traitement de l'eau industrielle et la production bio basée seront les temps forts de l'événement mondial le plus important pour l'industrie des procédés qui aura lieu à Francfort du 15 au 19 juin 2015. Il va sans dire que d'autres domaines trouveront également leur place, depuis la gamme des techniques d'analyse et de laboratoire aux machines de conditionnement, des pompes, compresseurs et robinetterie, en passant par la gamme complète de l'ingénierie des procédés à travers l'ingénierie et la construction industrielles. DECHEMA enregistre déjà les inscriptions des exposants.

L'eau, la technologie analytique des procédés (PAT) et BiobasedWorld

Les thèmes clés d'ACHEMA 2015



15th - 19th June 2015: ACHEMA 2015, Frankfurt am Main (D)

« En choisissant trois thèmes clés, nous rendons justice à l'immense champ d'action d'ACHEMA, tout en mettant en lumière les développements en train de transformer de manière radicale l'industrie des procédés », explique le Dr. Thomas Scheuring, CEO de DECHEMA Ausstellungs-GmbH. Presque tous les domaines de l'industrie des procédés sont concernés par ces thèmes phares. Des publications dédiées ainsi que le programme du Congrès mettront également l'accent sur les innovations dans ces domaines qui touchent de manière transversale tous les groupes d'exposition.

La technologie analytique des processus (PAT) couvre bien plus que « seulement » la mesure en temps réel. Elle fournit les apports pour l'optimisation et l'automatisation des procédés, sans lesquels les changements fondamentaux en matière de contrôle des procédés, telles que la QBD (Quality by Design), serait impossible. Épuiser tout ce potentiel requiert les efforts concertés de nombreuses disciplines et de nombreux acteurs, depuis les techniques de laboratoire et d'analyse jusqu'à l'instrumentation et le contrôle par des développeurs de procédés et des fournisseurs de composants.

L'ingénierie des eaux industrielles est également un sujet brûlant sur les agendas du monde entier. Que ce soit le rejet liquide zéro ou la production à faible taux de pollution, il ne s'agit plus simplement de mettre un filtre sur un conduit d'évacuation, mais bien au contraire de développer des concepts pour une gestion de l'eau efficace en termes de coûts et de consommation d'énergie. Les éléments clés sont la récupération de l'énergie, des ressources et des produits de valeur, la manipulation des concentrés, et la planification et la gestion des flux d'eau et de matières. Voilà les questions qui motivent les ingénieurs de procédés, les spécialistes en matériaux mais également les chimistes, les concepteurs de systèmes et les experts en contrôle. Les nouveaux procédés de production et les industries montantes telles que la biotechnologie industrielle engendrent de nouveaux défis, avec à leur tour de nouvelles demandes par rapport au traitement de l'eau industrielle.

Tout comme en 2012, Biobased World est le terme général désignant la production bio basée qui continue à être un thème important pour la recherche et l'industrie. La transition vers une économie bio basée est inconcevable sans les méthodes biotechnologiques. Mais il n'y a pas que le développement de la recherche et des procédés ; les producteurs de composants, les industriels et les techniciens d'instrumentation et de contrôle cherchent également à concrétiser cette nouvelle vision de la bioéconomie. ACHEMA met en lumière toute la gamme des acteurs, et représente le forum indispensable pour créer de nouveaux contacts et discuter des nouveaux développements. BiobasedWorld sera également un élément essentiel du Congrès.

ACHEMA est le forum mondial pour l'ingénierie chimique, l'ingénierie des procédés et la biotechnologie. Tous les trois ans, le plus grand salon mondial de l'industrie des procédés attire près de 4 000 exposants de près de 50 pays différents qui présentent leurs nouveaux produits, procédés et services à des professionnels du monde entier. L'exhaustivité de l'événement, depuis les équipements de laboratoire, les pompes et les équipements d'analyse aux machines de conditionnement, les chaudières et les mélangeurs, en passant par la technologie, les matériaux et les logiciels en rapport avec la sécurité, couvrant ainsi toute l'étendue des besoins des industries de production chimique, pharmaceutique et alimentaire. Le Congrès organisé en parallèle propose près de 800 conférences scientifiques ainsi que de nombreux événements invités et partenaires, complétant ainsi l'éventail très étendu des thèmes de l'exposition. Le prochain salon ACHEMA aura lieu du 15 au 19 juin 2015 à Francfort.

DECHEMA Ausstellungs-GmbH D 60486 Frankfurt am Main

parts2clean 2015 (9-11 June)



parts2clean – reliable and efficient cleaning from A to Z

- Cleaning parts and surfaces is now a growing priority worldwide
- parts2clean: interdisciplinary and international, a must for all users

**09th - 11th June 2015:
parts2clean 2015, Stuttgart (D)**

Better cleaning performance, reduced consumption of energy and resources, lower environmental impact and great flexibility – these are just some of the requirements for which users of industrial cleaning technology worldwide are seeking solutions. And the first port of call in that search is the trade fair parts2clean. “The trade visitor quota is very high indeed at 99 percent, and most of these people who attend parts2clean at the Stuttgart Exhibition Center are decision-makers”, reports Olaf Daebler, the director of parts2clean at Deutsche Messe. This is confirmed by the experience of Michael Höckh, managing director of Höckh Metall-Reinigungsanlagen GmbH: “It’s well-known by now that the people you meet here are all high-caliber contacts. I would say around 70 percent of the visitors we saw in 2014 came to us with specific projects in mind. Around 30 percent were seeking information that would help them formulate their inquiry at a later date. From the discussions we had it was clear that the trend is increasingly towards better monitoring of process chains and improved cleaning performance.”

The overwhelming majority of visitors at parts2clean 2014 shared this positive assessment. So it is not surprising that more than 100 companies have already confirmed their stand bookings for the upcoming Leading International Trade Fair for Industrial Parts and Surface Cleaning from 9 to 11 June 2015, including nearly all the market leaders and technology pioneers from all the various segments represented at the show. These include plant and installations, processes and process media and their preparation for the degreasing, cleaning and pre-treatment of parts and components, baskets and pallets, handling and process automation, clean room technology, corrosion protection, preservation and packaging, contract cleaning, quality assurance, test methods and analytical procedures.

Popular add-on – the Trade Forum in both English and German

parts2clean has made a name for itself among users around the world for its comprehensive and representative range of exhibits, but its reputation rests not just on its effectiveness as a platform for information gathering and procurement. The Leading International Trade Fair for Industrial Parts and Surface Cleaning also boasts the highly regarded Trade Forum. This is the go-to place for users to learn more about industrial cleaning technology, compare notes with fellow professionals and extend their network of contacts. The Forum hosts a program of talks in English and German by experts on a wide range of themes, with simultaneous translation provided.

Another feature of parts2clean 2015 is the extended program of guided tours. These enable visitors to gather information about specific areas of interest as well as the latest innovations in industrial cleaning technology.

Surface technology at Deutsche Messe – upcoming events and dates

The next trade fair in Germany on this theme is SurfaceTechnology, which is staged as part of HANNOVER MESSE from 13 to 17 April 2015. The next parts2clean is due to take place from 9 to 11 June 2015. O&S and parts2clean 2016 will run for three days from 31 May to 2 June 2016. The next overseas trade fairs aimed at the surface treatment industry are Surface Technology INDIA in New Delhi, India, with a parts2clean pavilion, from 10 to 13 December 2014, and Surface Treatment EURASIA, also with a parts2clean pavilion, which will take place from 12 to 15 February 2015 in Istanbul, Turkey, followed by Surface Technology NORTH AMERICA from 12 to 17 September 2016 (parallel to the IMTS).

Deutsche Messe AG
D 30521 Hannover

With highly integrated and automated system solutions from a single source ENGEL increases product quality, manufacturing efficiency and thus its customers' competitiveness. The injection moulding machine manufacturer and system supplier will demonstrate how this can be translated to practice with three innovative applications at PLAST EURASIA 2014 in Istanbul from 4th to 7th December 2014.

ENGEL at PLAST EURASIA 2014



**04th - 07th December 2014:
PLAST EURASIA 2014,
Istanbul (Turkey)**

Efficient use of LIM multi-component processes

The main demands as regards the processing of liquid silicone (LSR) are that it must be fully automatic, waste-free, low in burrs and require no reworking. An ENGEL e-victory 200H/80W/120 combi injection moulding machine – automated with an ENGEL viper 20 linear robot – will impressively show that ENGEL system solutions not only meet these requirements fully, but also handle LIM multi-component processes securely and efficiently. A mould provided by ACH solution will be used to produce sensor housings for flow measurement with integrated seals. ENGEL can guarantee maximum precision by using servo-powered injection units. Normally the LSR field requires special solutions where very small injection unit volumes are involved. In this case ENGEL meet that need with a standard unit. Developed and patented by ENGEL, iQ weight control software applied in the system recognises and automatically compensates for fluctuations in melt quantity during the actual injection process.

The tie-bar-less technology of the ENGEL e-victory machine also makes a decisive contribution to high process stability in this application, while the patented force divider evenly introduces force to the mould across the platen face. Both outer and inner cavities are thereby kept closed with precisely identical force, significantly reducing mould wear and raising product quality. On top of this, free access to the tie-bar-less machine's mould area facilitates the most effective automation concepts.

All-electric for maximum performance

500 ml food containers will be produced on an all-electric ENGEL e-motion 440/160

ENGEL at PLAST EURASIA 2014



featuring a 2-cavity mould by Glaroform. In-mould labelling (IML) will be used to decorate the packaging; to do this, ENGEL will collaborate with partner company BECK automation.

The steady enhancement of the ENGEL e-motion series is serving to establish the machines in the field of high performance applications for the packaging industry. The newest machine generation is able to achieve cycle times of well under three seconds and injection speeds of more than 500 mm per second, thereby combining maximum performance with maximum energy efficiency. The closed system for toggle lever and spindle always guarantees optimal, clean lubrication of all moving machine components. This makes the ENGEL e-motion the preferred machine type even in regulated areas such as food packaging production.

Maximum reliability with excellent efficiency

Using the example of a medical technology application ENGEL demonstrates how maximum efficiency can be reconciled with maximum process reliability. An all-electric ENGEL e mac 440/100 injection moulding machine will be manufacturing polystyrene needle holders for safety hypodermics using a 16-cavity precision mould by Fostag.

In order to transfer the specific requirements of the medical technology industry, such as maximum product safety, absolute cleanliness and precision as well as full documentation, to efficient injection moulding processes, ENGEL dedicates an entire business line to this industry. On the basis of its in-house clean room and a series of resulting machine concepts for clean room use, the injection moulding machine manufacturer has acquired extensive experience in the medical field and competence with clean rooms.

ENGEL AUSTRIA GmbH
A 4311 Schwertberg

POWTECH and TechnoPharm become one. POWTECH, the World-Leading Trade Fair for Processing, Analysis and Handling of Powder and Bulk Solids, and PARTEC, the International Congress on Particle Technology, will take place in the Exhibition Centre Nuremberg from 19–21 April 2016. The whole spectrum of products exhibited at the TechnoPharm exhibition previously held parallel to POWTECH will be integrated into POWTECH, which will have a focus topic with forums and special shows under the name of "Pharma.Manufacturing.Excellence.". The Arbeitsgemeinschaft für Pharmazeutische Verfahrenstechnik (APV – International Association for Pharmaceutical Technology) and the VDI-Gesellschaft Verfahrenstechnik und Chemieingenieurwesen (VDI-GVC – Association of German Engineers – Association of Process and Chemical Engineering) support POWTECH as honorary sponsors.

APV and VDI-GVC support POWTECH as honorary sponsors

TechnoPharm to be integrated into POWTECH



**19th - 21st April 2016:
POWTECH 2016, Nuremberg (D)**

"Every second exhibitor at POWTECH offers solutions relevant to pharmaceuticals," explains Beate Fischer, Exhibition Manager of POWTECH at NürnbergMesse. There were also many firms at TechnoPharm whose products are not only relevant for the pharmaceutical industry. With the integration we are implementing a longstanding request of exhibitors and visitors – namely not to physically separate the two exhibitions any longer."

The entire pharmaceutical process chain for solid, semi-solid and liquid drugs will still be showcased in Nürnberg. This also has the advantage that the visitors can find their way around better. Exhibitors concentrating on pharmaceutical products can present them more easily to the visiting international professionals from other application segments. Pharmaceutical is one of six industry clusters explicitly promoted for POWTECH by the organizer NürnbergMesse. The other clusters are chemistry, processing, pit & quarry, ceramic & glass and food & feed.

VDI-GVC and APV as honorary sponsors of POWTECH

The Arbeitsgemeinschaft für Pharmazeutische Verfahrenstechnik (APV) and VDI-Gesellschaft Verfahrenstechnik und Chemieingenieurwesen (VDI-GVC) will support POWTECH as honorary sponsors in the future. Prof. Jörg Breitreutz, President of APV, welcomes the new exhibition concept: "In future pharma will be at the centre of activity and not just present. The exhibition in Nürnberg will continue to be a top-quality and specialist platform for experts from the

pharmaceutical industry to meet and discuss the latest issues. APV will make a major contribution to this."

"Exhibitors and visitors profit from the integration," says Dr. Ljuba Woppowa, General Manager of VDI-GVC. "Nowhere else in the world can process engineers obtain such a breadth and depth of information on processing and handling powder and bulk solids – and all in one place. The focus on pharma adds a totally new dimension to the 360-degree view that visitors get in Nürnberg."

Aiming for 1,000 POWTECH exhibitors

The organizer NürnbergMesse is already clear about the aim of integration: "POWTECH and TechnoPharm together had almost 1,000 exhibitors in the past years," says Beate Fischer. "We want to achieve this 1,000 mark in 2016 – and even top it if possible." For this purpose we have revised the list of products and exhibitors as well as the hall allocation and in the pharmaceutical segment we have included the entire production process.

About POWTECH

POWTECH is the world's biggest trade fair for processing, analysis and handling of powder and bulk solids. Nowhere else can process engineers find such a comprehensive overview of technologies for mixing, size reduction, screening, dosing, weighing, conveying and analysing powders, granules and bulk solids – for virtually all industries, including chemicals, pharmaceuticals, food and feed, and processing mineral source materials.

NürnbergMesse GmbH
D 90471 Nürnberg

The world's most important showcase for intralogistics and supply chain management is present in every key market the world over

CeMAT Worldwide



**31st May - 03rd June 2016:
CeMAT 2016, Hannover (D)**

The various CeMAT events organized by Deutsche Messe provide the intralogistics sector with excellent opportunities to showcase products and innovations in all the key international markets. Based on CeMAT in Hannover, the world's most important event for intralogistics and supply chain management, these trade fairs offer an ideal platform in the relevant countries and regions. CeMAT is by far the biggest intralogistics trade fair in the world, boasting more than 1,000 exhibitors on a total display area of approx. 120,000 square meters and attracting around 50,000 trade visitors from all over the world. Accordingly, the proportion of exhibitors from outside the host country, Germany, is high (over 45 percent), while the corresponding figure for trade visitors is approx. 35 percent. The next CeMAT will take place from 31 May to 3 June 2016 in Hannover, Germany.

Complete overview of the industry

CeMAT in Hannover embraces every area of intralogistics - including innovative, energy-saving forklift trucks and industrial trucks, fully automated handling, shelving and warehousing systems, as well as the latest IT developments. Naturally, the picture would not be complete without displays of cranes, lifting equipment and platforms, auto-ID systems, robot logistics and packaging technology. All these categories are part of the trade fair program, and now port handling technology and transport logistics will be added to this lineup.

The international significance of CeMAT to the global logistics sector is demonstrated by the fact that there are already six regional CeMAT events:

CeMAT RUSSIA:

Deutsche Messe staged the fifth CeMAT RUSSIA in Moscow from 23 to 26 Septem-

ber 2014 at the All-Russian Exhibition Center, one of Moscow's three most important tradeshow venues. CeMAT RUSSIA covers every sector of intralogistics with an array that includes handling and warehousing equipment, packaging and order picking systems, materials handling, workshop equipment, transport technology and logistics systems, software and services for intralogistics, as well as outsourcing. CeMAT RUSSIA not only provides its exhibitors with access to the Russian market - it also attracts buyers from the neighboring countries that were part of the former Soviet Union. More than 200 exhibitors from 25 countries took part in CeMAT RUSSIA 2014 and 5,315 trade visitors attended the event. The next CeMAT RUSSIA will take place from 19 to 22 September 2015 in Moscow.

CeMAT ASIA:

Launched in 2000 in Shanghai, CeMAT ASIA has been held every year since then in October at the Shanghai New International Expo Centre in Shanghai. Attracting more than 500 exhibitors, CeMAT ASIA (27 to 30 October 2014) is the most important intralogistics event in the whole of Asia and focuses on industrial trucks, as well as cranes and lifting equipment, handling systems, storage and warehousing systems, loading technology, including software and accessories for every aspect of materials and goods handling. The trade show takes place parallel to PTC ASIA, the world's second largest trade fair for power transmission and control technology.

CeMAT INDIA:

In December 2007 the era of CeMAT INDIA began in the new exhibition center in Bangalore. The trade fair has been held annually ever since, although in 2009 and 2010 CeMAT INDIA took place in Mumbai at the Bombay Exhibition Centre, before returning

to Bangalore. In December 2012 and 2013 the event took place under the brand name WIN INDIA at the Pragati Maidan Exhibition Grounds in Delhi. The trade fair is now scheduled to take place alongside MDA INDIA, Industrial Automation INDIA and Surface Technology INDIA. The next CeMAT INDIA will return to the Delhi venue from 10 - 13 December.

CeMAT SOUTH AMERICA:

In April 2011 the first CeMAT SOUTH AMERICA took place in the Imigrantes Exhibition Center in São Paulo, Brazil. This intralogistics trade fair is held every two years. When the second CeMAT SOUTH AMERICA closed on 22 March 2013, the verdict of exhibitors and trade visitors alike was positive. 237 exhibitors from 24 countries had successfully showcased their products and innovations. Apart from Brazil, the biggest exhibitor contingents came from China, Germany, Italy and the USA. The last trade fair attracted 18,236 visitors, which represented a 45 percent increase compared with 2011. The next CeMAT SOUTH AMERICA runs from 30 June - 3 July 2015 and will coincide with MDA SOUTH AMERICA, the leading trade fair for power transmission and control technology.

Materials Handling Eurasia:

Deutsche Messe organizes Materials Handling Eurasia within the context of WIN Automation. Next year the trade fair will run from 19 to 22 March in Istanbul. The organizers expect approx. 100 exhibitors. This event will run parallel to the trade fairs Otomasyon, Electrotec as well as Hydraulic & Pneumatic.

INTRALOGISTICA ITALIA:

In future Deutsche Messe will stage INTRALOGISTICA ITALIA in Milan in partnership with the Italian market leader Ipack-Ima S.P.A. This intralogistics fair will take place parallel to the world's most important packaging technology fair Ipack-Ima, which runs from 19 to 23 May 2015 in Milan. The spectrum covered by INTRALOGISTICA ITALIA spans warehousing technology and factory equipment, packaging and assembly equipment, loading technology, complete logistics systems, transport technology, logistics software, transport logistics services and logistical services.

Deutsche Messe AG
D 30521 Hannover

Central topic - resource efficiency: sustainable and resource-saving solutions in production.

Registration figures for the seventh Anuga FoodTec, the international supplier trade fair for the food and beverage industry, from 24 to 27 March 2015 in Cologne, have been outstanding. Alongside countless market leaders from Germany and abroad, many small and medium-sized companies will also be appearing at Anuga FoodTec. In keeping with the motto „One for all - all in one“ Anuga FoodTec will represent the entire production chain, divided into the areas Food Processing, Food Packaging, Food Safety and Services & Solutions. Alongside the classic exhibition topics, ingredients and packaging materials will, for the first time, be given greater prominence. Individual topics, such as suppliers for the meat industry, are showing remarkable growth. As an overarching theme, the broad term „Resource efficiency“ will be emphasized across all areas of the trade fair and also represented within the supporting programme. Approximately 1,400 suppliers from around 40 countries and 43,000 trade visitors from around 130 countries are expected at the trade fair.

From now on, the list of exhibitors will be updated daily online

Anuga FoodTec 2015: excellent registration figures - from Germany and abroad



**24th - 27th March 2015:
Anuga FoodTec 2015, Cologne (D)**

The excellent registration figures for the coming trade fair can be seen across all sectors of the fair. Famous names appearing at Anuga FoodTec 2015 include, amongst others: Air Liquide, Bischoff + Klein, Bizerba, Bosch Packaging, Bühler, Ecolab, Döhler, DS Smith, Gardner Denver, GEA, Gerhardt Schubert, Grundfos, Albert Handtmann, IMA, JBT FoodTec, Kawasaki Robotics, KHS, Kronen, KSB, Linde, Marcel, Mettler Toledo, Multivac, Pöppelmann, Rockwell, SACMI, Siemens, SKF, SMI, SPX, Taghleef, Thermo Fischer, Ulma, Vemag, Veripack, Voith and Zeppelin. From now on, the list of exhibitors for the 2015 trade fair can be seen online and will be updated daily.

Certain sections of Anuga FoodTec have seen above-average growth. For this reason, the suppliers for the meat industry will occupy the larger Hall 6 in 2015 (previously Hall 9) where they will present solutions for all processing stages.

The supplier section for the milk-processing industry has traditionally been a strong area. The fact that technologies for all processing phases within the milk industry are presented here - not only liquid milk products for instance - is one of the outstanding strengths of Anuga FoodTec.

The same applies for the fruit and vegetable processing industry sector, where participation is also strong, which competently satisfies the demand for different solutions within production processes.

In addition to the traditional focus on processing and packaging, Anuga FoodTec also offers cross-sector solutions for all pro-

cessing phases and food industries. Under the heading „Services & Solutions“ leading companies from the conveyor technology, inert gases and lubricants sectors, among others, will be appearing at Anuga FoodTec.

Once again Anuga FoodTec will occupy Halls 4 to 10 of the Cologne exhibition grounds, which corresponds to a gross exhibition space of 127,000 m².

As an overarching theme the term „resource efficiency“ will unite the individual focuses of the exhibition and place the emphasis on one of the most important issues within the food industry: today a conserving and conscious approach to natural resources is one of the fundamental responsibilities of food and beverage production. As part of Anuga FoodTec, exhibitors will present possibilities and ideas of how to reduce the amount of water, energy, raw materials and food resources used during production. This will be represented as part of the supporting programme as well as at the stands of individual exhibitors.

Among other things, all of the exhibitors will have the opportunity from January 2015 onwards to present their ideas, technologies and measures on the theme of resource efficiency via the Anuga FoodTec novelties database and thus inform media representatives and interested visitors about their commitment and concepts. The diversity of the topic as well as different approaches and solutions will thus be brought to light.

In addition to the exhibitor presentations, Anuga FoodTec will provide industry experts from the food production sector

with the information they require through a diverse and technically sophisticated supporting programme.

Under the direction of the DLG (German Agricultural Society), current topics and issues relevant to the industry will be addressed in specialist forums presented by prestigious research institutes, associations and experts.

Anuga FoodTec 2015 will also be accompanied by high-calibre conference programmes. Among others, the „2nd International Conference + Drying Technologies for Milk and Whey“ will take place (23 and 24 March 2015). Innovative and sustainable developments in milk-processing and whey products as well as drying processes will be in focus, this will include a comprehensive discussion on the increasing global demand in the food industry. The event organisers are Muva Kemtem, the Bavarian Centre for Milk and Dairy, Herberz Dairy Food Service and Anuga FoodTec.

For the second time, Koelnmesse will be introducing a „Careers Day“. This initiative facilitates contact between companies exhibiting at Anuga FoodTec and students and graduates from relevant courses of study, which serves to aid the recruitment of new talent in the industry. The „Careers Day“ will take place on Friday, 27 March 2015.

Anuga FoodTec is jointly organised by Koelnmesse GmbH and the German Agricultural Society (DLG).

Koelnmesse GmbH
D 50532 Köln

Anuga FoodTec exhibits concentrated know-how and modern technologies for all areas of food and drinks production.

Anuga FoodTec - the international supplier trade fair for the food and drinks industry - will present an up-to-date and comprehensive overview of new technologies, facilities and supplier components for all areas of production from 24 to 27 March, 2015 in Cologne. In focus at the trade fair are modern analytical techniques which can, for example, help food producers to quickly and economically detect harmful metabolic products of mold, or so-called mycotoxins. Quick analysis and easy handling - ideally at the processing location - are of central importance in these new methods. As part of the focal topic „Food Safety“ Anuga FoodTec will present countless topics and solutions within the field of analytical techniques, and with this, will communicate the latest methods and know-how to meet industry demands.

Example: rapid tests detect the presence of mycotoxins on the spot

Modern analytical techniques are indispensable in the food industry



**24th - 27th March 2015:
Anuga FoodTec 2015, Cologne (D)**

Mycotoxins include aflatoxins, ochratoxins, ergot alkaloids, fusarium toxins, patulin and alternaria toxins. Over 350 mycotoxins originating from over 250 species of mold have now been discovered. Even small quantities of mycotoxins can be toxic to people and animals. Symptoms of poisoning can include liver and kidney damage, weakening of the immune system, damage to the skin and mucus membranes and hormonal disturbances such as fertility disorders. In addition, some mycotoxins are carcinogens and some can lead to genetic defects.

It is for this reason that food products are prohibited from containing, for example, more than two micrograms of aflatoxin B1 per kilogram. We often receive rapid warnings of contaminated specimens of figs, nuts, spices and corn from the European Commission. Boiling, baking or frying foods does not help to kill off the heat-resistant substances. Tracking down this ‚evildoer‘ is therefore compulsory for food producers - they must prove through tests that their products do not contain any of the poisonous substances.

Taking control with the test strip

Analytic methods sensitive enough to detect mycotoxins have been around since the 1970s. The challenge today lies in developing appropriate procedures for on-site controls, in order to quickly and simultaneously detect mycotoxins in food products.

Although laboratory testing is very exact, it is also costly and time-consuming, and rapid-response methods provide results in a shorter time. Immunological procedures such as ELISA (enzyme-linked immunosorbent assay) and lateral flow tests, as well as chemical tests such as fluorimetric testing, offer more cost-effective methods of identifying aflatoxins and are helpful in routine daily work. With these tests even untrained staff can identify contaminated specimens without the need for laboratory conditions.

The „lateral flow test“, for example, can detect individual mycotoxins in just five minutes. In principle, the test system works like a rapid response test strip: if aflatoxin is in the sample, a test band will become visible, if not, it will remain unchanged. This provides a reliable test against the toxins, not only in corn and grain, but also in nuts, figs and, to a certain extent, spices. Another advantage is that the test can be used without any technical equipment, even directly upon delivery of raw produce. The ELISA method is just as fast and cost-effective: this can detect fusarium toxins in barley, oats, rye and corn. The microtiter plate test finds the substances on the basis of antigen antibody reactions in less than 20 minutes and allows for a high sample flow rate.

The analytic techniques of tomorrow can stop mycotoxins in their tracks

The legally defined maximum values for mycotoxins still need to be verified using reference methods. Rapid tests serve only to provide an estimation of the toxic content in

food products. More precise results require detection through high-performance liquid chromatography or mass spectrometry. New techniques should provide solutions: scientists want to trace the substances using infrared laser spectroscopy. The European Commission's mycospec project is based on new laser diodes with an emission wavelength in the middle infrared range. „They can be tuned across a wide spectral range, meaning the mycotoxins' complex signatures can be captured in infrared“ explains Prof. Dr. Boris Mizaikoff, head of the Institute for Analytical and Bioanalytical Chemistry at the University of Ulm. Using this measuring technique the samples can be prepared quickly on site, which simplifies monitoring limit values. The project group hopes to have the prototypes ready by 2015. Just as practical is the project facilitated by the food industry's research group to develop a biosensor array, which should be able to detect all relevant mycotoxins in grain and grain products. The biochip detects up to five mycotoxins in under 11 minutes.

In future, the maximum values for mycotoxins in food products may be further reduced. To this end, the business consultants AFC Consulting published a study „Mycotoxin Analytics“ in 2013 in which they investigate the problem of harmful substances in grain and products containing grain. 55 percent of food producers surveyed agree that guaranteeing safe, mycotoxin-free products will become increasingly important.

Koelnmesse GmbH
D 50532 Köln

LABVOLUTION 2015 (6–8 October, Tue.–Thu.)

Lab automation conference at LABVOLUTION 2015



- European Lab Automation to be staged in Hannover, Germany
- New lab technology show to premiere in October next year

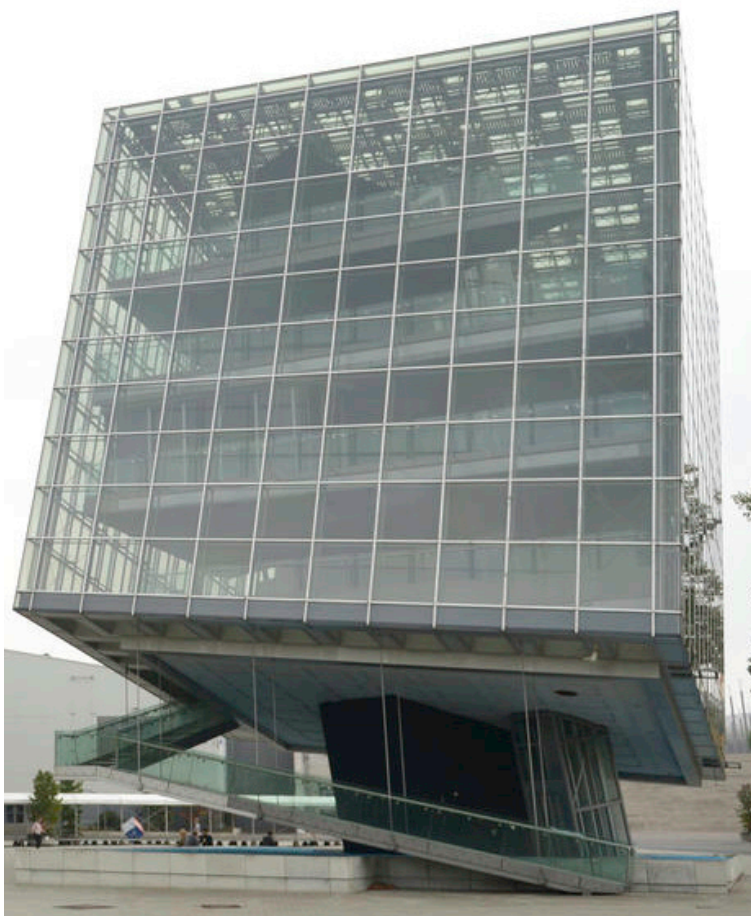
**06th - 8th October 2015:
LABVOLUTION + BIOTECHNICA 2015, Hannover (D)**

LABVOLUTION is Deutsche Messe's new trade show for laboratory technology. And it's sure to get off to a fantastic start next year thanks to a winning partnership with an established showcase: European Lab Automation. ELA is Europe's leading conference and exhibition for laboratory automation, and in October 2015 it will be staged as part of the inaugural LABVOLUTION. The perfect complement to ELA's life sciences automation focus, LABVOLUTION is aimed at Northern European users of lab technology from the following industries: chemicals, pharmaceuticals, biotechnology, plastics, new materials and materials testing, cosmetics, medical technology, environmental technology and food. It will be co-located with BIOTECHNICA, Europe's number one event for biotechnology and the life sciences.

"The pairing of ELA and LABVOLUTION is a perfect symbiosis," says Deutsche Messe's LABVOLUTION director, Jürgen Fürstenberg-Brock. "Laboratory automation is an extremely engaging and topical subject area for a trade show. Our partnership with this high-end conference and exhibition will enable us to focus both on automation technology and its applications, and this will deliver major benefits to exhibitors and visitors alike."

ELA is an annual exhibition and conference showcase organized by the UK-based firm SELECTBIO (Select Biosciences Ltd). Since its launch in 2011, ELA has been held three times in Hamburg and once – just recently, in May of this year – in Barcelona. Next year, it will be held at the Hannover Exhibition Center, (in Hannover, Germany), as part of LABVOLUTION. The exhibition component of ELA will run on all three LABVOLUTION show days – 6 to 8 October – in Hall 9, while the conference component will be held right next door in the Convention Center complex on 7 and 8 October. ELA will also feature three conferences, the topics covered by each being: innovations in lab automation and robotics; personalized medicine and its ramifications for hospitals; genome engineering.

LABVOLUTION is an international platform for industry, re-



search and science. It is intended both as an incubator of new business leads and contacts and as a forum for informed discussion on current and future trends and themes in laboratory technology. As such, it will profile innovations in laboratory technology holistically across multiple industry value chains. LABVOLUTION will energy major synergies and crossover visitor potential with ELA, and the same applies for the co-located BIOTECHNICA show, with its overlapping coverage of related themes such as personalized medicine technology and the bio-economy.

LABVOLUTION and BIOTECHNICA 2015

LABVOLUTION will premiere from 6 to 8 October 2015 at the Hannover Exhibition Center – the same time slot and venue as the long-established BIOTECHNICA trade fair. Up until now, the BIOTECHNICA exhibition program has included a section on lab technology for biotechnology and life sciences. As of next year, this section will be spun off into LABVOLUTION, where it will be supplemented with additional lab tech content for the chemicals, pharmaceuticals, plastics, new-materials, materials-testing, cosmetics, medical technology, environmental technology and food industries. Visitors from these industries will encounter a wide range of products and solutions, including laboratory infrastructure, analytics, applications and processes, chemicals, reagents, supplies and consumables and specialist services. BIOTECHNICA is Europe's leading showcase and dialogue hub for biotechnology and life sciences. It spans the entire biotechnology value chain, from basic research to fully developed products. Visitors will be able to gain admission to both fairs on the one ticket.

Deutsche Messe AG D 30521 Hannover

Heading for a bright biotech future



Biotech business made in Hannover

- BIOTECHNICA 2015: Where technology meets investors
- Keynote themes: “personalized medicine technology” and “bioeconomy”
- Synergies: Premiere of the new LABVOLUTION trade fair

**06th - 8th October 2015:
LABVOLUTION + BIOTECHNICA 2015,
Hannover (D)**

Even a year ahead of BIOTECHNICA 2015, preparations for Europe's No. 1 meeting place for biotechnology, the life sciences and lab technology are already in full swing. The next BIOTECHNICA will be staged from 6 to 8 October 2015 and feature two special marketplaces dedicated to the topics of “bioeconomy” and “personalized medicine technologies”. Another major emphasis at BIOTECHNICA is on helping the biotech industry get down to business, with tailored matchmaking offerings designed to maximize the number of promising leads and partnerships generated at the show. “When it comes to successful networking, Hannover offers all the right formats for the scientific and R&D communities as well as providers of biotech goods and services,” said Dr. Jochen Köckler, member of the Managing Board at Deutsche Messe. “This makes BIOTECHNICA stand out as Europe's best business and knowledge-sharing platform.” BIOTECHNICA's impact will also be enhanced when Deutsche Messe launches its brand new LABVOLUTION laboratory technology trade fair in 2015, at the same time and place.

“Biotechnology is one of the most exciting technologies of our time,” said Köckler. “It will put us on track for a sustainable economy beyond fossil raw materials.” Just a few weeks ago, in connection with the German government's high-tech strategy the decision was reached to devote several billion euros to support the rapid market deployment of scientific discoveries. In this context, the bioeconomy was highlighted as a particular focus, and biotechnology as a key technology. BIOTECHNICA 2015 holds a mirror to today's cutting-edge solutions and demonstrates the innovative power in play in science and industrial applications. Here is how BIOTECHNICA stands out from the would-be competition: It is the only trade show addressing the entire biotech value chain end to end, i.e. from basic research on through to market-ready products.

“The German biotech sector is strong and has grown into an industry with huge growth potential,” said Peter Heinrich, Chairman of the Board of the BIO Deutsch-

land association, who added: “It is a leader in many areas, despite ongoing difficulties with sourcing R&D funds and government policies with room for improvement. As an innovative sector, biotechnology naturally also needs strong national showcases with a big impact. This makes BIOTECHNICA a key event where all the major players can exhibit and connect in an international setting.” This applies to research and industry equally, as both leverage BIOTECHNICA as a community meeting place and a business platform. Leading universities and research institutes thus take part in BIOTECHNICA alongside biotech companies. Partnering tools that create successful business matches before the fair begins provide valuable support with lead generation, and numerous special events offer plenty of scope for knowledge-sharing and networking. These include the INNOVATION FORUM highlighting new products, the Life Science Spotlight with scientific presentations on key topics from the life science industry, as well as other flanking conferences. The BIOTECHNICA Opening Ceremony on the evening before the trade fair, with its 400 participants from government, the biotech industry and science, is not the least of these opportunities where guests can enjoy productive discussions around the sector's most important topics. Next year the 11th EUROPEAN BIOTECHNICA AWARD will be awarded at this event. This award goes to a European company that has successfully brought a “disruptive technology” from the biotech or life sciences field to market.

The show's two featured marketplaces facilitate highly targeted knowledge transfer. At the Bioeconomy Marketplace, biotech experts for manufacturing and food industry applications address the challenges involved in leveraging biotech resources for production processes and for promoting the efficient and sustainable use of biomass. The latest trends in the chemical, polymer and food industries are also covered. The second dedicated marketplace focusses on personalized medicine technology, with the keynote theme of “Companion Diagnostics”.

The parallel staging of the new LABVOLUTION trade fair next year will offer lots of added value and promote crossover visitors. As the flagship trade fair for northern Europe, LABVOLUTION will embrace the

entire spectrum of laboratory technology for the all-important chemical, pharmaceutical, plastics and materials development sectors, as well as for materials testing, cosmetics, medical technology, environmental engineering and nutrition. LABVOLUTION will thus give a major boost to the coverage given to laboratory technology for biotechnology and the life sciences. The new show will be held right alongside BIOTECHNICA. Since admission covers entry to both shows, visitors can enjoy an even more enriching tradeshow experience without added expense.

BIOTECHNICA 2015 gives start-ups the opportunity to take part in the “Young Innovative Companies” pavilion supported by the German Federal Ministry for Economic Affairs and Energy (BMWi). A comprehensive offer for students, recent graduates, doctoral students and young and experienced professionals can be found on jobvector career day. From networking to presentations at the forum, and including the Jobwall with its concrete job offers, plenty of assistance is at hand to look for an entry-level job or new professional challenges.

BIOTECHNICA has strong partners on board once again for the coming year. These include, along with BIO Deutschland, the diagnostics industry association and the Life Science Research group (VDGH + LSR) as well as the association of pharmaceutical research companies vfa + vfa bio.

BIOTECHNICA + LABVOLUTION 2015

For the first time ever, in 2015 BIOTECHNICA and LABVOLUTION are being staged side by side at the Hannover Exhibition Center, from 6 to 8 October. The 21st BIOTECHNICA is well established as Europe's No. 1 meeting place for biotechnology, the life sciences and lab technology. It covers the entire biotech value chain – from basic research on through to market-ready products. With its Bioeconomy and Personalized Medicine Technologies marketplaces, it showcases the sector's most significant trends. LABVOLUTION – the World of Laboratory Technology – is premiering in 2015. The new fair spotlights laboratory technology also as used in other fields besides biotechnology and the life sciences. LABVOLUTION hosts the key chemical, pharmaceutical, plastics, materials development and materials testing, cosmetics, medical technology, environmental engineering and nutrition sectors. A single ticket price covers admission to both exhibitions.

Deutsche Messe AG
D 30521 Hannover

Medical Device Technology Providers benefit from Strong International Response – Tailwinds for Export Business

MEDICA and COMPAMED



**16th - 19th November 2015:
MEDICA + COMPAMED 2015,
Duesseldorf (D)**

“The high number of international visitors has provided medical device technology providers as well as their suppliers at MEDICA and COMPAMED with tailwinds for propelling up their export business. Those putting their business on a particularly broad footing across country borders find it easier to compensate for an unclear market and safety situation in specific countries,” says Joachim Schäfer, Managing Director at Messe Düsseldorf, summing up events in the halls of the world’s biggest medical trade fair and of the leading international trade fair for suppliers’ products in medical manufacture after four days (12 - 15 November 2014). The 4,831 exhibitors at MEDICA as well as the 724 exhibitors at COMPAMED gave the again almost 130,000 visitors (2013: 132,000) impressive proof of the benefit of their product innovations and wealth of ideas for high-quality and affordable health care. Approx. 84,000 visitors came from abroad travelling from some 120 countries to Düsseldorf. The average length of stay rose to 2.2 days. Just as important for exhibitors is the visitors’ decision-making authority. MEDICA also boasts top scores here. Over 70% of visitors have a say or are decisively involved in purchasing decisions; add to these another 10% who are involved in a consulting capacity.

The latest reports from industry associations underscore just how important MEDICA and COMPAMED are as drivers for suppliers’ international business. 85% of the medical device technology companies in the German Medical Technology Association BVMed polled expect sales to rise over the previous year, driven especially by dynamic export business. Explaining trends Marcus Kuhlmann, Head of the Medical Technology Association in SPECTARIS, the German Hightech Industry Association, says: “This year we expect turnover at the 1,200 Germany medical technology manufacturers to exceed EUR 25 billion for the first time, with growth abroad developing more strongly than it is on the domestic market. Exports account for 68%”. In view of the trade fair business Kuhlmann emphasises: “MEDICA continues to be an outstanding possibility for companies to present themselves and their products and is therefore a “must””

Re-Launch of Conference Program bears Fruit

To also meet the needs of international visitors in future, MEDICA’s accompanying conference program has been fundamentally restructured over the past two years – now boasting highlights not only for German trade visitors and conferences on very specific topics.

The MEDICA EDUCATION CONFERENCE, which was organised by the German Society for Internal Medicine (DGIM) for the first time this year, offered an impressive multi-disciplinary program: 280 events with 350 speakers on four days placed the link between science and medical technology centre stage. Highlights of the programme included events on sonography, latest insights into the treatment of hepatitis C, the introduction of the MiroSurge surgical robotic system as well as lectures on “Medical and Social Freezing”. “Participant feedback on the quality of topics and speakers was very positive,” says Prof. Dr. Hendrik Lehnert, the President of the MEDICA EDUCATION CONFERENCE.

DiMiMED, the International Conference on Disaster and Military Medicine, registered a further increase in participants with high-ranking representatives from the armed forces of over 20 nations. “Military medical services render outstanding performance worldwide under often very difficult conditions. The opportunity to exchange experiences amongst participants and know-how with medical technology manufacturers was boosted significantly at DiMiMED,” said Dr. Christoph Büttner, the Scientific Head of the Conference (Beta Group), summing up.

The MEDICA MEDICINE + SPORTS CONFERENCE for sports and preventive medicine also enjoyed growing attendance. Here renowned experts like Prof. Dr. Tim Meyer, physician to Germany’s national football team, or Prof. Jonathan Clark, medical director of the Red Bull-Stratos project, provided visitors with exciting insights into the latest methods used in performance diagnostics and sports medicine. Aspects that doctors regularly face as routine were not neglected in the English lectures either. Generating great interest was the session on preventing lack of exercise in children. Speaker Dr. Birgit Böhm (Faculty for Sport and Health Sciences /TU Munich) surprised the audience with the insight that specific sports programmes of gaming consoles (when pla-

yed energetically via controller) can by all means be considered as useful exercise.

Newly incorporated into the programme, the MEDICA PHYSIO CONFERENCE addressed not only pain treatment aspects in physiotherapy but also preventive approaches. Among other things, participants learnt about the positive effect of weight training on older people and how medical fitness training schemes can improve patient loyalty and extend the service portfolio of doctors’ surgeries.

Hospital Conference – Treatment Quality and How it is Financed

The 37th German Hospital Conference focused on the future challenges for hospital politics under the general heading of “Best Quality requires a Better Financing”, to name but one subject. Alongside the political debate on the planned hospital reform for 2015, other focal themes included the challenges posed by an ageing population for nursing care management, IT in clinics, quality and hospital planning as well as specialist care for out-patients as a driver for cross-sector cooperation. The 37th German Hospital Conference counted almost 1,800 participants.

Cost-Benefit Ratio Must add Up

The discussions held at MEDICA’s well-attended themed Forums – such as the MEDICA HEALTH IT FORUM or the MEDICA CONNECTED HEALTHCARE FORUM – along with the product innovations displayed by exhibitors can be summed up as follows: the efficiency and easy handling of medical devices and products is becoming a pivotal purchase criterion. “Quality in care and efficiency are becoming more and more important for patients at clinics and doctors’ practices. The numerous innovations and improvements on show at MEDICA make important contributions to this,” explains Hans-Peter Bursig, General Manager of the Electromedical Technology Association in the Electrical and Electronic Manufacturers’ Association (ZVEI). There is demand for products/services of major benefit for specific treatments and ones that simplify processes. And here cost is not so much an issue. This also applies to the area of ultrasonic imaging, for example, where flexible ultrasonic probes introduced through the oesophagus furnish detailed, close-up images of the heart.

MEDICA and COMPAMED

Thanks to this new technology, surgeons find it easier to assess the blood flow "live" during heart valve procedures to ensure that the repaired valve or valve replacement works properly. This can reduce the need for additional corrective procedures.

Speaking at the MEDICA EDUCATION CONFERENCE, Prof. Dr. Andreas Schuler, board member at the German Association of Ultrasound in Medicine, stressed: "Modern technology, however, does not help patients if it is in the hands of inadequately trained physicians. This is why we recommend everyone working with ultrasonic devices to obtain qualifications through certified training and continuous medical education." He went on to say that the qualifications of the treating physicians most definitely had to keep pace with developments in high-tech medicine.

COMPAMED – Suppliers as Competent Partners

Regularly held in parallel with MEDICA,

COMPAMED succeeded in further consolidating its position as the leading international event for suppliers to the medical manufacturing sector, registering in excess of 700 exhibitors for the first time. Companies as well as research institutes presented themselves in Halls 8a and 8b with their high-tech solutions to just under 17,000 visitors as competent partners for development and production in medical device technology. This time the focus was specifically on miniaturised components, functional materials, intuitive control units and high-precision processes designed to make medical products cheaper, safer and more reliable in future. Application examples included mobile analysis, therapy and control devices. Researchers from the Fraunhofer Institute for Ceramic Technologies and Systems IKTS (Dresden) presented a compact device for analysing prostate tissue at COMPAMED. The laboratory apparatus, which has already successfully completed first clinical tests, will ease diagnosis for physicians in future: through an automated

optical analysis based on laser pulses they will be able to diagnose carcinoma reliably within as little as 90 seconds. So far, comparative tissue analyses were far more labour-intensive and therefore also more costly.

From 2015 MEDICA and COMPAMED to be held from Monday to Thursday

From November next year MEDICA and COMPAMED will always be held in Düsseldorf from Monday to Thursday and will run concurrently on all four days. The concentration on "normal" week and working days from Monday to Thursday (instead of from Wednesday to Saturday as before) will in future make for an even better distribution of the trade audience on all four days and a more uniform utilization of exhibitors' presentations and their infrastructure.

Messe Düsseldorf GmbH
D 40001 Düsseldorf

IPTE handling equipment for clean room use

IPTE extends its material-handling portfolio with a version for the use in clean rooms according to the ISO/DIS 14644-1 Class ISO 5. The equipment includes modules for the efficient handling of products in manufacturing lines and assembly them according to customer requirements. The key targets for the design of the new handling and processing units program have been the highest of demands on the quality and reliability of this equipment. Strong focus was laid on the optimization and minimization of the footprint demands and quantity of generated particles.

The mechanical construction of the mo-

dules is based on a light frame made from anodized aluminum extrusions delivering lighter construction, easier installation and better cleaning options. All the modules can be integrated into highly differentiated manufacturing lines, aiding the efficient production of a wealth of diverse products on a variety of shop floors. Since it is manufacturing equipment working around the clock, maximum reliability was another successfully reached key target in the development of the IPTE handling modules.

The clean room modules are straightforward easy to configure; due to the software which is configured via an uncomplicated program interface. In addition, all information needed for line integration, operation and control of the system can be shown in a clear format on the LCD display of every module. Each module also features an on-board diagnostic tool for the complete, 100% control of the equipment, as well as for monitoring all the individual steps of operation. The set-up of the handling modules is very easy and follows the plug & play principle.

The comprehensive machine portfolio of IPTE's clean room handling program includes the

following modules:

- FIFO BUFFER, first in - first out
- SHUTTLE GATE UNIT, variable stroke
- TURN UNIT, turns 90°
- CURING OVENS
- PICK-N-PLACE CELL WITH CLEANROOM SCARA ROBOT
- INSPECTION CONVEYORS
- CONVEYORS in different lengths, segment length 325mm or 650mm

IPTE Germany GmbH
D 90562 Heroldsberg



Systec & Solutions GmbH is a specialized manufacturer of complete stainless steel hardware solutions for life science and food industries. The products are used by many well-known manufacturers of pharmaceutical and food products.

High-end stainless steel HMI systems for life science and food industries

WAVE – new dimensions for regulated industry

The latest version, now available, is the WAVE 255 with a 55" touch screen. WAVE systems come with impressive up-to-the-minute IPS technology in displays from 19" to 55", and the 21.5" and 24" WAVE units are also available with PCT multi-touch and optical bonding. Optical bonding technology achieves the highest image quality when combined with a touch screen. Its luminosity and color reproduction are considerably and noticeably better than with conventional display and touch technology. The flat glass surface and encapsulated IP65-protected stainless steel housings are constructed to be cleanable to the highest possible standard.



CONTROL - Installation height from 40mm

An installation height of from 40mm makes CONTROL the ideal solution for integration into the walls and switch cabinets of cleanrooms. Display sizes start at 17.3" and go right up to 32". Units can be installed either from the front, by drilling holes, or fitted with supporting feet at the rear. All systems are available with either resistive touch or PCT multi-touch. The CONTROL OEM series is also available in customized configurations with emergency off and function keys.

Figure 2: PILOT 219 und PILOT 219 OEM aus der PILOT Familie von 17,3 bis 21,5 Zoll (Image Rights: Systec & Solutions GmbH)

The PILOT OEM series was especially developed for mechanical engineering requirements. The system is available in sizes from 17.3" to 21.5". Customized configurations with emergency off, function buttons, signal light and e.g. RFID offer a high level of flexibility.

Latest technology from ultra-thin client up to Intel® Core™ i7 processor with multi-touch and optical bonding display

Systec & Solutions' systems are available in a variety of configurations:

- Monitor
- Ultra-thin client
- KVM system
- Industrial PC with the latest fourth generation processor technology (Intel® Celeron®, Core™ i3, i5 and i7) with up to 16GB of RAM and powerful mSATA SSDs

PILOT – the unbreakable multi-touch for the food industry

Software applications that support gesture control are becoming increasingly important for the food industry. This calls for HMI systems that fulfill certain special requirements, which the new PILOT with PCT multi-touch certainly does.

The entire front consists of a non-reflecting multi-touchscreen made of glass set flush without edges into the stainless steel housing. A polyamide film is laminated to the surface of the glass to splinter-proof and protect it. The multi-touch screen offers 5-finger gesture control and supports all standard operating systems. The new PILOT is available with a 17.3" full HD display or as a 19" IPS panel. It comes in a polished stainless steel housing with all-round IP65 protection and is therefore ideal for industrial production applications calling for enhanced cleanliness and hygiene.



Figure 1: WAVE Familie von 19 – 55 Zoll (Image Rights: Systec & Solutions GmbH)

Flexibility – numerous add-ons and options for all the systems

- Keyboards - stainless steel housed membrane and glass keyboards with antibacterial coatings can be connected directly to the units via a continuously-adjustable torque adapter with internal cable routing
- Ports - various on-board interfaces such as WLAN, Bluetooth, and externally available USB and RS-232 ports
- Multimedia - sound and VoIP optionally also possible
- Installation - high quality stainless steel components for integration into diverse production environments

Systec & Solutions GmbH D 76131 Karlsruhe

Quick disconnects on media bottles improve laboratory safety

CPC Announces First Market Offering of 45mm Caps with Integral Quick Disconnect Couplings

CPC (Colder Products Company), the leading provider of quick disconnect couplings and fittings for plastic tubing, announces the first market offering of 45mm caps with integral quick disconnect couplings. Adding quick disconnects to media bottles enhances the user experience when using laboratory equipment by making it easier to exchange consumable products.

The BQ45GL series of caps provide three options for quick disconnect couplings to meet your various needs. Each option includes a factory-installed and sealed quick disconnect coupling, hydrophobic vent and hose barb to attach a dispense tube. These caps will fit any glass or plastic bottle with a 45mm neck opening and GL threads.

BQ45GL series caps promote proper fluid handling protocol by making the connections to reagent or media bottles easier. The easy connect/disconnect feature encour-

ages lab technicians to replace or refill these bottles in the proper location.

By providing a proper seal to bulk reagents or other media bottles, evaporation of liquids is prevented. The evaporation of liquids can have an adverse effect on these fluids potentially changing the chemistry of the fluid which may influence the final test being performed.

“Laboratory safety has always been a concern, but it is even more important now with potentially bio hazardous waste products in the lab,” says Bob Komma, business development manager for medical markets. “The BQ45GL caps provide a secure seal so that even if the bottle were to be inadvertently knocked over, none of the internal fluids would be spilled.”

The BQ45GL caps are manufactured with HDPE and polypropylene resins that ensure strength and chemical compatibility for a va-

riety of reagent and solvent materials. The BQ45GL cap is ideally suited for use with analytical laboratory equipment or in vitro diagnostic (IVD) machines.

Colder Products Company GmbH
D 55252 Mainz-Kastel



Perfect for Demanding OEM Applications

Miniature Dew Point Transmitter for Refrigeration Dryers

The EE354 in-line transmitter from E+E Elektronik is specifically optimized for dew point monitoring of refrigeration dryers. The high accuracy and excellent long-term stability make the transmitter a perfect solution for OEM manufacturers. Due to its compact design and small dimensions the EE354 is ideal for use in harsh applications with space constraints.



The EE354 is suitable for dew point monitoring in the range of -20°...50°C Td (-4...122°F Td). It features a high accuracy of ±1°C (±1.8°F Td) in the typical operating range of a refrigeration dryer (-3...20°C Td / 26.6...68°F Td). The built-in humidity sensor HC1000 is highly resistant to compressor oil and other chemicals. The robust, IP65 stainless steel enclosure is another quality feature of the EE354.

The measured values are available on a analog 4-20 mA output and a digital Modbus RTU interface. Using the free configuration software and the optional Modbus USB con-

verter the scaling of the analog output can be modified. This also permits one and two-point adjustments by the user.



EE354 In-Line Dew Point Transmitter for Refrigeration Dryers. (Photo: E+E Elektronik GmbH)

A ½ „ISO or NPT thread and the standard M12x1 connector for electrical connection all facilitate quick and easy integration into the measuring task.

E+E
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