



Hans J. Michael GmbH

Merck Millipore's Additions to the MAS-100® Product Family of Microbial Air Samplers Deliver Improved Functionality for Pharmaceutical Manufacturers

- MAS-100 Iso NT® sampler streamlines the decontamination process in isolators
- MAS-100 Iso MH® system offers increased capacity, easier installation and lower costs compared to single-head systems
- MAS-100 VF® system's compact design enables greater ease of use in controlled environments



Merck Millipore, the Life Science business of Merck, today announced three additions to its MAS-100® product family. The MAS-100 Iso MH® and MAS-100 Iso NT® systems were developed for use in isolators and enable sampling at critical control points. The distinguishing feature of the MAS-100 Iso MH® system is its four sampling heads, which allow for increased monitoring capacity compared to single-head systems. The compact and easy-to-handle design of the MAS-100 VF® air sampler makes it well-suited for use in controlled environments.

The MAS-100 Iso NT® system for monitoring air in isolators was developed according to GAMP 4 and ISO® 14698 standards. The fully validated air sampler contains an innovative double valve which integrates the sampling head into the decontamination process of the isolator. For added safety, electronic and moving

parts remain outside the critical zone and an internal pump with flow control enables automatic disinfection of the sampling head and the aspiration tube.

The MAS-100 Iso MH® air sampler offers all the benefits of the MAS-100 Iso NT® and allows installation of up to four sampling heads at all critical control points. Multiple heads from one pump provide increased capacity, easier installation and lower cost than four equivalent single-head systems. Additionally, the system extends up to 10 meters in tube length, which facilitates use in larger isolators. The system was developed according to GAMP 5 and ISO® 14698 standards.

The MAS-100 VF® active air sampler was validated and developed for air monitoring in controlled environments. The system's compact design allows for ease of operation, and its added handle can be mounted on a tripod to test different angles for fixed applications.

Merck Millipore's Additions to the MAS-100® Product Family of Microbial Air Samplers Deliver Improved Functionality for Pharmaceutical Manufacturers

Electronic speed control ensures a consistent and accurate flow rate, and a touch-slide control menu enables simple menu navigation. The system programs sample volumes from 1 to 1,000 liters with five pre-sets to assure reproducible results.

“Air contamination in manufacturing facilities can impact product quality and increase risk to consumers,” notes John Sweeney, head of Lab Solutions Business, Merck Millipore. “It is therefore essential to implement robust and accurate microbiological monitoring of air in all manufacturing areas. With the MAS-100® product family, Merck Millipore offers its customers the broadest portfolio of the most accurate microbial air monitoring systems on the market,

enabling manufacturers to ensure the highest quality products and increased consumer safety.”

The MAS-100® family includes systems for testing air and compressed gases in cleanrooms, aseptic production areas, isolators, and other controlled environments. MAS-100® microbial air samplers comply with the guidelines as specified in the new ISO® 14698 part 1 and part 2 standards.

Merck Millipore GmbH
D 65824 Schwalbach

New: HMI systems with multitouch in portrait orientation



The Systec & Solutions GmbH in Karlsruhe offers ergonomic software operation with on-screen keyboard and multitouch. The 21.5" and

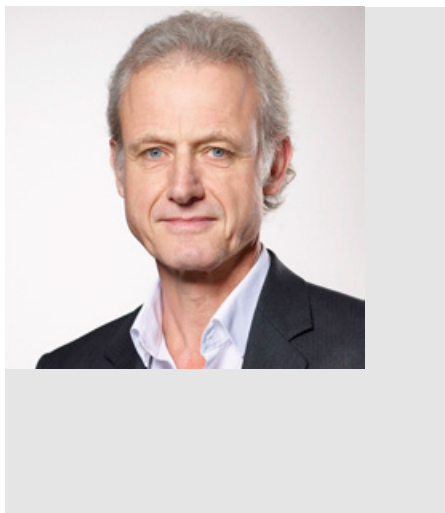
24" WAVE HMI systems can now also be mounted on the TROLLEY platforms in portrait orientation.

This opens up new ergonomic application areas. For instance software user interfaces in 4:3 format can still be used, with the software displayed at the top together with a permanently visible on-screen keyboard in the lower third of the 16:9 screens. An installation angle of 10° and the 10-finger multitouch allow ergonomic software operation.

Portrait orientation has yet more advantages to offer. It is ideal for presenting and visualizing large flowcharts with MES software and process control systems and provides a larger viewing area for list views. 16:9 portrait orientation also permits the display of entire DIN A4 pages - a great function for viewing PDF documents.




Systec & Solutions GmbH
Emmy-Noether-Straße 17 D 76131 Karlsruhe
Telefon: +49 721 6634 400 Fax: +49 721 6634 444
E-Mail: talk@systec-solutions.com
www.systec-solutions.com



Dear readers, dear subscribers,

now it's July 2015 and we have a lot of interesting news and a lot of interesting events for your appointment calendar.

So the amount of the German and the international newsletters is constantly growing. We hope, we can give you with this information a good help for your daily work and your planning tasks.

Yours sincerely

Reinhold Schuster



The map shows where the readers of the cleanroom online newsletter are coming from: if you want to get in contact with these readers please contact us.



NEW

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

Cleanzone Congress focuses on current trends in cleanroom technology

Top themes of the congress: Planning, layout, construction, process optimisation and verification



27.10. - 28.10.2015: Cleanzone 2015, Frankfurt am Main (D)

Industry 4.0 in the cleanroom: Potential offered by automation and robot technology for process optimisation

The latest scientific findings and practical expertise presented by an international line-up of renowned experts from the field of cleanroom technology – the Cleanzone Congress is once again offering a top-notch programme in 2015. The congress – which is taking place alongside Cleanzone, the international trade fair for cleanroom technology, on 27 and 28 October 2015 – again features a modular structure that is tailored to the needs of both experts and newcomers, making it easy to flexibly combine visits to the trade fair and congress. Ruth Lorenz, Vice President Technology & Production at Messe Frankfurt, explains the congress' importance to the trade fair: "A combined trade fair and congress is ideal for a market growing as dynamically as that for cleanroom technology. This allows those who find out about the latest standards, processes and procedures at the congress to talk directly with manufacturers at the trade fair about possible solutions for their own production requirements."

The Cleanzone Congress programme is put together by ReinraumAkademie in collaboration with Messe Frankfurt and an international panel of experts. Frank Duvernell, Managing Director of ReinraumAkademie, sums up the areas of particular focus for the 2015 Cleanzone Congress: "The presentations at this year's congress are focused on current trends in the field of cleanroom technology. The national cleanroom organisations for Switzerland (SwissCCS – Swiss Contamination Control Society) and Germany (DRRI – German Cleanroom Institute) are already working to assign user interests to the "Design, layout and construction", "Qualification" and "Cleanroom operation" working groups. Experts from various fields of application and supplier sectors will be gathering at the congress to discuss these overarching themes and possible harmonisation of technological requirements. There will be targeted information and concrete support to help users make sense of it all."

The Basic modules, which will be taking place on the mornings of 27 and 28 October, deal with

Cleanzone Congress Programme

27.10.2015

BASIC 1: BASICS

Moderation: Thomas Raupach

10:00 – 12:30 h:

- VDI 2083 – State of the art in contamination control, Thomas Wollstein, VDI
- Cleanroom Air – High Efficiency Filtration Techniques, Frank Spehl, AAF-Lufttechnik GmbH
- Cleanroom Cleaning – A Professional Approach, Frank Duvernell, profi-con GmbH
- Cleanroom Staff Qualification, Claudia Pachl, Avantation Consulting Switzerland AG
- Best Practice – Cleanroom Behaviour, Koos Agricola, ICCCS International Confederation of Contamination Control Societies

ADVANCED 1: QUALIFICATION

Moderation: Dr. Rüdiger Laub

14:00 – 16:30 h:

- Cleanroom Qualification – A Step by Step Approach, Dr. Rüdiger Laub, profi-con GmbH
- Assessing Technical Requirements in Cleanroom Standards and Regulatory Guidelines for GMP Cleanrooms, Steffen Röhm, pharماسerv GmbH & Co.KG
- The Role of Cleanroom Isolators – Comparing GMP Operational and Performance Qualification, Dr. Thomas Meindl, Labor L&S AG
- Aseptic Cleanroom Qualification – Experiences of a GMP Inspector, Dr. Jürgen Mähltitz, Reg. Oberbayern
- Insitu Cleanroom Air Filter Testing and Qualification – According to DIN EN 1822, Dr. Peter Hausch, Caverion

28.10.2015

BASIC 2: DESIGN/LAYOUT/CONSTRUCTION

Moderation Professor Dr. Gernod Dittel

9:30 – 12:00 h:

- Cleanroom Design – Planning, Layout, Logistics, Conor Murray, Irish Cleanroom Society, 3dimension Cleanrooms
- Opportunities for Energy Savings in Cleanrooms, Florian Dittel, Dittel Engineering
- Developments in Cleanroom Air Filtration, Michael Feldtmann, Camfil KG
- Cleanroom Monitoring? – A Risk Assessment Approach, Michael Müller, vali.sys GmbH

ADVANCED 2: PROCESS OPTIMIZATION

Moderation Dr. Lothar Gail

13:00 – 15:30 h:

- Cleanroom Environmental Monitoring – Real Time Particle Identification, Dr. Oliver Valet, Rap-ID GmbH
- Cleanroom Automation – Robotic Technology in Material Handling and Logistics, Heinz Martin Esser, Roth & Rau Ortnier GmbH
- Cleanroom automation: Control systems and application in GxP regulated environments, Yves Samson, Kereon AG
- Cleanroom Energy Management – Addressing the importance and impact of Relative Humidity, Holger Lasch, Condair AG

Top themes of the congress: **Planning, layout, construction, process optimisation and verification**

“Cleanroom technology basics” and “Design / Layout / Construction”. The “Cleanroom technology basics” presentation series offers an overview of the most important aspects of production under controlled conditions, including state-of-the-art technology, ventilation systems, cleanroom cleaning, cleanroom personnel and proper protocols within the cleanroom. In the second Basic module, which deals with planning and building a cleanroom, participants will find out what form a modern cleanroom well equipped for the demands of the future might take. Professor Dr. Gernod Dittel, who is moderating this presentation session, is a member of the international panel of experts for the Cleanzone Congress. He offers a preview of the requirements for modern cleanroom planning: “When planning a cleanroom, it is important to ensure flexibility and keep future requirements in mind. Cleanrooms should be planned such that they can also be adapted to suit possible future uses. In addition, planning should also incorporate the consideration of alternative power supplies, such as the use of renewable energies, because nowadays we must think about sustainability even in the field of high-tech production. The thing that most distinguishes good planning is cost-effectiveness – and ensuring that the customer is not abandoned once the cleanroom is finished, but continues to be assisted and advised.”

Once a cleanroom is completed, it must be validated, and in the presentations taking place as part of the “Qualification” module in the afternoon session on 27 October, professionals will be talking about the requirements mandated by standards and guidelines, as well as the stages of the cleanroom validation process. A cleanroom inspector will also be sharing some insights into his daily work. Topics such as Industry 4.0, digitisation and automation are ever present today, including in the field of cleanroom production. How can real-time par-

title identification, process control systems, the introduction of robot technology and moisture-level optimisation be utilised to optimise processes and save energy? Experts will be offering answers to these questions in the Advanced module “Process optimisation” taking place on the afternoon of 28 October. Heinz-Martin Esser from Roth & Rau Ortner GmbH is one of the speakers for this module, and he shared his views on the significance of robot technology in the cleanroom with us: “Robots have been seeing widespread use in cleanrooms for a number of years now. This has increased quality and productivity, shortened throughput times and optimised machine availability and capacity utilisation. In addition, automation has been decisive in helping to avoid errors and maintain continuously high product quality. Finally, automation also helps cleanroom operators reduce the particle contamination that results from human staff.”

The modules of the Cleanzone Congress can be booked individually. Prices range from €130.00 for one module to €355.00 for all of the modules. For more information and tickets go to: www.cleanzone.messefrankfurt.com. die Anwender gibt es zur besseren Orientierung gezielte Hinweise und ganz konkrete Unterstützung.“

Die Basis-Module, die jeweils am Vormittag des 27. und 28. Oktobers stattfinden, beschäftigt

cleanzone

Messe Frankfurt

Ludwig-Erhard-Anlage 1 D 60327 Frankfurt am Main

Telefon: +49 69 7575 6290 Telefax: +49 69 7575 96290

E-Mail: anja.diete@messefrankfurt.com

Internet: <http://www.messefrankfurt.com>

Munters and HB Group Combine Expertise and Products to Provide High Quality Air Treatment Solutions to Customers

Munters to Acquire HB Group

Munters AB today announced it has signed a definitive agreement to acquire HB Group (www.hbgroup.nl), an international company that specializes in customized hygienic climate control systems for the food/dairy industries. HB Group has locations in Almelo, the Netherlands (headquarters, with sales and manufacturing) and a Joint Venture in Hrusky, Czech Republic (manufacturing facility).

Munters is a global leader and premium partner in energy efficient air treatment solutions. Using innovative technologies, the group's expert engineers create the perfect climate for customers in a wide range of industries, with the largest being the food, pharmaceutical and data center sectors. The agreement combines the strength of Munters and HB Group by leveraging Munters' large sales channel, software tools, service reach and operational excellence and HB Group's application knowledge, product offering and customer base. The merging of the two companies will strengthen Munters' ability to be a valued partner to its customers. By offering a broader range of products and services, Munters will be better positioned to meet all the air treatment needs of its customers.

“HB Group's seasoned management team has done a fantastic job of building a solid and successful operation that provides quality products for demanding applications” said Scott Haynes, Munters President Business Area Air Treatment. “Munters and HB share a strong

focus on critical industrial applications. Munters will be able to expand its successful systems product portfolio to include HB Group's world class stainless steel hygienic systems, while HB Group's customers will benefit from the vertical integration of Munters' innovative energy efficient technologies. This, combined with expanding our European manufacturing and service footprint, will allow us to better serve the industry. We look forward to bringing together the two companies to meet the demands of the marketplace and grow closer to our customers,” Haynes added.

“We are very happy to join the global team and reach of Munters,” commented Eric Bonvanie, previous owner and Managing Director of HB Group. “Munters' global service network will provide more local access for all our service needs and bring enormous additional potential for our solutions offering. Our existing customers will be pleased to hear that HB Group, as part of Munters, will be able to support them whenever and wherever they need. In addition, Munters will be able to offer new and further career opportunities for our employees,” added Bonvanie.

Bonvanie, who in 1984 assumed responsibility for the family business from his father, adds, “I believe our strong family culture will find a new home in Munters, sharing a long history of service and customer orientation. I really look forward to jointly achieving the best for our employees, our partners and, of course, our customers.”

Munters GmbH

D 21035 Hamburg

Arburg is to present itself beyond machine technology as a production system supplier for plastic part production at the Fakuma trade fair in Friedrichshafen from 13 to 17 October 2015. Eight allrounders and three freeformers, the ARBURG host computer system ALS and integrated automation will be on view in Hall A3, Stand 3101. Production-efficient applications indicate current industry trends. One highlight is the customisation of mass-production parts by combining injection moulding and additive manufacturing, including integration with Industry 4.0 technologies. Innovative lightweight construction processes, multi-component injection moulding, LSR processing, practical examples for medical and packaging technology and a micro production system round off our trade fair presentation. Another eight allrounders can be found at the stands of our partners

Fakuma 2015: Arburg presents itself as system supplier

- **Additive manufacturing: freeformer-customised injection-moulded mass-production parts**
- **Industry 4.0: automated and networked shear production for one-off designs**
- **Innovative process: Lightweight construction, LSR processing, packaging technology and more**



Arburg is to present itself beyond machine technology as a production system supplier for plastic part production at the Fakuma trade fair in Friedrichshafen from 13 to 17 October 2015. Eight allrounders and three freeformers, the ARBURG host computer system ALS and integrated automation will be on view in Hall A3, Stand 3101. Production-efficient applications indicate current industry trends. One highlight is the customisation of mass-production parts by combining injection moulding and additive manufacturing, including integration with Industry 4.0 technologies. Innovative lightweight construction processes, multi-component injection moulding, LSR processing, practical examples for medical and packaging technology and a micro production system round off our trade fair presentation. Another eight allrounders can be found at the stands of our partners.

„We have been working on the subject of Industry 4.0 for some time now. With automated allrounders, the freeformer for additive manufacturing and IT solutions, we are increasingly developing ourselves into a

**13.10. - 17.10.2015:
FAKUMA, Friedrichshafen**

production system supplier for integrated production in the digital factory“, stresses Arburg’s Managing Partner Juliane Hehl. „In Friedrichshafen we are going to show how mass-production parts can be customised and traced back in a part-specific way in practice using industrial additive manufacturing with the freeformer. The other exhibits at our exhibition stand, every single one of which is a highlight, will also astonish visitors“.

Combined: allrounder, freeformer and Industry 4.0

Three freeformers will be on show at Fakuma which produce complex components from common plastic granules without a mould through industrial additive manufacturing, which customise injection-moulded mass-production parts, and which showcase the subject of Industry 4.0.

Exhibition stand visitors can make unique versions of various office scissors, for example. Firstly, an electrical Allrounder 370 E first moulds plastic handles onto the stainless-steel blades, onto which a particular code is then lasered, and optionally customised 2D or 3D lettering is applied with the laser or Freeformer.

A Multilift V robotic system inserts the scissors into the workpiece carrier and transports them out of the production cell via a conveyor belt. A scanner then checks whether the scissors are to be issued to the visitor directly or if 3D lettering made from additive plastic is to be applied using the Freeformer in a further step.

As a première, Arburg is to present a highly flexible automation solution in combination with the Freeformer for the first time at the Fakuma 2015: a six-axis robot mounted on a mobile platform from Kuka designated „iiva“ (intelligent industrial work assistant) handles automatic loading and unloading of the Free-

former. In addition to its mobility, and the associated high degree of flexibility, the main advantage of this automation is the possibility of direct, autonomous cooperation between human and robot. The robot will hand out the finished, individualised 2D and 3D scissors ‚personally‘ to the visitors at Fakuma.

A second practical example of networked production is provided by a Freeformer enhancing injection-moulded rocker-type light switches with a customised symbol/name combination in large volumes. Here too, the product itself becomes an information carrier with a code applied by laser. All the components for this networked production are supplied by system supplier Arburg.

The Arburg host computer system (ALS) seamlessly documents all relevant process parameters and forwards these to a web server. A web page displaying all the relevant process data can be opened via the unique code using mobile devices. Each individual part can be seamlessly tracked in this way.

Beyond the Industry 4.0 applications, all exhibits at the Arburg exhibition stand are linked via ALS. Visitors can experience the performance of the host computer system, which is optimised for injection moulding operations, with regard to machine and operational data logging ‚live‘ at the stand and also receive advice from experts.

Innovative: the Profoam lightweight construction process

With an innovative application for the automotive industry, Arburg will present the physical foaming of thermoplastics. The innovative Profoam lightweight construction process has been researched and developed together with the Institute for Plastics Processing (IKV). It enables significant material savings in automotive plastic parts and thus a reduction in fleet consumption and CO₂ emissions. Due to the reduction in volume and weight, the process also saves cooling time, minimises the occurrence of sink marks, shrinkage and distortion and does

Fakuma 2015: Arburg presents itself as system supplier

not require any additional peripheral devices. Conventional injection moulding machines can be employed in this way and also used for other applications.

The latest stage of development of Profoam will be presented at the Fakuma 2015 on a hydraulic Allrounder 630 S. An injection unit with normal screw geometry is used. The plastic granules are first mixed with motive fluid in a granulate lock between the refill container and material feed. During plastification the propellant is dissolved in the melt and only escapes again when pressure is reduced during the injection process in the form of microcellular „bubbles“. The result is a light, robust and low-distortion component with homogeneous foam structure. Further advantages of Profoam are the simple process control, the material-friendly melt temperature and the conservation of long fibres when preparing the melt, as the process requires no shear or mixing element in the melt.

Double soft: push-buttons from LSR / LSR compound

An electrical two-component Allrounder 470 A with a clamping force of 1,000 kN, a size 170 injection unit and a second size 30 injection unit in an L-arrangement manufactures buttons for car interiors from liquid silicone rubber (LSR). The diaphragm of the moulded part is manufactured from coloured LSR with a Shore hardness of 50; the inner disc from transparent LSR with a Shore hardness of 80. Because silicones, unlike thermoplastics, do not perish or turn yellow, they enable a particularly pleasant texture and unvarying appearance over the entire life cycle.

The exhibit operates with a 32+32-cavity mould from Trelleborg and an electric rotary unit. The shot weights are especially small at just 2.04 and 0.98 grams. A vertically-operating Multilift V robotic system removes the

finished parts from the mould, conducts a visual inspection using a thermal imaging camera and sets them down according to cavity.

Refined manufacture: handles, fruit basket and Y-joint

The fact that hydraulic, hybrid and electrical Allrounder injection moulding machines are suitable for a wide range of uses will be demonstrated at the Fakuma with industry-specific applications.

For example, a hydraulic two-component Allrounder 570 S with a clamping force of 2,000 kN and size 400 and 170 injection units will produce handles for garden saws from 40 percent glass fibre-reinforced PP and haptically appealing TPE. The machine is complemented by a mobile robotic cell. A small Agilus six-axis robot, which moves on an additional linear axis transversely to the machine, removes the finished handles, subjects them to pad printing and then sets them down on a conveyor belt. The flexible automation is characterised by dynamic movements and quick entry into the mould. This results in short cycle times and high productivity.

A hybrid Allrounder 820 H has been specially configured in the „Packaging“ version for applications in the packaging industry. The high-speed machine with a clamping force of 3,700 kN and a size 1300 injection unit will produce small folding baskets (175 x 175 x 85 mm) for fruit from PP in a cycle time of around five seconds. IML labels are attached using automation from Campetella. Depending on the requirement, the fruit baskets are set down on different conveyor belts folded together or opened out.

An electrical Allrounder 470 A with a clamping force of 1,000 kN will be on view for the field of medical technology, producing connecting pieces (Y-connectors) for infusion therapy with an 8-cavity mould from Männer. The cycle time is around 15 seconds.

The highlight of this application is the side injection through a needle-type shut-off nozzle and the demoulding from three sides of PMMA moulded parts each weighing 1.1 grams. The exhibit has an extended conveyor belt with a tunnel cover for docking with the clean room. By placing the machine and extensive peripheral equipment outside and only transporting the clean, produced parts inside, the clean room can be operated with a high level of cost-effectiveness. A clean-air module with ionisation above the clamping unit ensures the required clean atmosphere (ISO class 7) during series production.

Special: system solution for micro components

Also on view at the Fakuma 2015 will be a micro production system based on an electric Allrounder 270 A, equipped with a new micro injection unit and a compact, horizontal Multilift H 3+1 for the reliable separation of micro component and sprue. A clean-air module with ionisation ensures a constant, controlled production environment and effectively prevents the adhesion of micro components in the working area.

The micro injection unit is specially designed for precision control over short travel strokes in conjunction with high filling dynamics. It combines a choice of 18 or 15-millimetre screw for melting the material with an 8-millimetre screw for the injection. This enables normal granule sizes, and therefore all common materials to be processed problem-free and the smallest shot weights can be achieved precisely and with short travel strokes.

The micro production system manufactures four micro counter wheels in a cycle time of twelve-seconds. Nine components weigh as much as a single granule of PBT material. The specially designed double-armed robot removes the sprue and the delicate 0.004 gram-light micro counter wheels simultaneously and sets them down carefully, separately and according to cavity.

ARBURG GmbH + Co KG D 72290 Loßburg

FAKUMA: Medical: even more safety in the clean room

The centerpiece in ENGEL's medical exhibition space at Fakuma combines no less than three premieres at the same time: the all-electric and tie-bar-less ENGEL e-motion TL machine in the new 80-tonnes variant; and ENGEL is setting new standards in consistent GMP-compliant clean room production with the new stainless steel pipe distributor and gripper housing.

During the five days of the fair, an ENGEL e-motion 170/80 TL will be producing needle holders for 1-ml safety syringes in a 16-cavity mould by Fostag Formenbau (Stein am Rhein, Switzerland). The fili-

gree polystyrene parts – the shot weight is just 0.08 g per part – are designed with a predetermined breaking point that makes it impossible to re-use disposable syringes. This is an important safety feature, especially in emerging countries.

The very thin and different wall thicknesses require extremely precise process control. Too high a clamping force, or fluctuations in the melt volume immediately lead to rejects. To prevent this, two software solutions from the iQ product family by ENGEL are used. One of them is iQ weight control, which automatically detects fluctu-

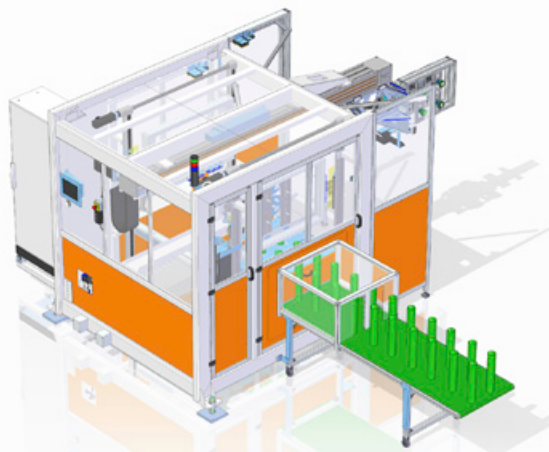
FAKUMA: Medical: even more safety in the clean room

tuations in the melt volume and material viscosity and compensates for them in the same shot. The other is iQ clamp control, the new ENGEL software, which continuously adjusts the clamping force to match the current process parameters based on the mould breathing.

In terms of design, too, the ENGEL e-motion 80 TL ticks all the boxes for constant process control. The innovative frame concept of the all-electric tie-bar-less machine guarantees particularly high platen parallelism and ensures that the clamping force is evenly distributed across the mould mounting surface.

ENGEL introduced the all-electric and tie-bar-less small-scale machine at K 2013, and is now extending the model range upwards with the 80-ton variant. Because there are no tie bars in the way, the mould mounting platens can be fully used up to their very edges. This means that large moulds can be mounted on relatively small injection moulding machines, which in turn keeps the investment and operating costs low and enables particularly compact production cells. In the clean room in particular, productivity per floor space has already become an important efficiency metric.

Further benefits of tie-bar-less technology include fast tooling processes and efficient automation solutions because the robot can reach the cavities directly from the side without having to work around any obstacles. The trade fair exhibit will also demonstrate this. The ENGEL e motion 80 TL is equipped with an ENGEL viper 12 linear robot that hangs over the needle holders to the pipe distribution system. The moulded parts are packed in bags separated by cavity in order to support batch tracking right through to the level of individual cavities. To avoid interrupting production when changing the bags, the distribution system is equipped with a buffer. The pipe



distributor developed by ENGEL, in contrast to systems previously available on the market, is made completely of stainless steel and thus contributes towards reducing particulate emissions in the clean room.

The robot gripper housing, also developed by ENGEL, achieves something similar. Thanks to its move, easy to clean surfaces, the housing enables the use of standard grippers in the GMP environment.

As a system provider, ENGEL is continually expanding its portfolio of GMP-compliant peripherals. For example, conveyor belts are also offered in a special clean room design. From a single source, ENGEL supplies highly integrated and automated production cells for medical technology and also handles the entire GMP documentation for its customers, on request.

ENGEL AUSTRIA GmbH 4311 Schwertberg

Leica DM4 P for Convenient Investigation of Crystalline Structure

Leica Microsystems Launches Fully Coded, Semi-Automated Polarization Microscope

Leica Microsystems launches the Leica DM4 P polarization microscope for the investigation of crystalline structures such as minerals, plastics and polymers, drugs and pharmaceuticals, or pigments and cement. The Leica DM4 P is fully coded and semi-automated, can either be configured with transmitted light axis or incident light axis, as well as with both transmitted and incident light axis, which makes the instrument an ideal tool for all polarization tasks. Users benefit from LED illumination which lights samples homogeneously and at a constant color temperature at all microscope settings. Strain-free optics and objectives guarantee that birefringence stems from the samples, not from the optics. The optional equipment with coded Bertrand lens and magnification changer ensures optimal results for conoscopic observation.

Users can store and recall information due to the coded components of the Leica DM4 P. While changing objectives, illumina-

tion intensity and aperture settings are automatically recalled by the Illumination and Contrast Manager. The coded 6-fold nosepiece ensures that the acquired images are automatically calibrated. In addition, the store and recall function in the Leica Application Suite software enables reproducible image settings.

Kay Scheffler, Product Manager at Leica Microsystems, says: "The possibility to combine transmitted and incident light in the Leica DM4 P makes users highly flexible in their applications: Incident light is interesting for all those who measure reflectivity for example in ores or coal. To measure birefringence, users need transmitted light, for example in inspection of geological thin sections, polymer foils, or drugs. Yet for specific applications such as in research, both are necessary."

With LED illumination, users can ensure homogeneous lighting of their samples at a constant color temperature, adjusting light



Leica Microsystems launches fully coded, semi-automated polarization microscope Leica DM4 P.

intensity fast. Additionally, it saves energy and does not need replacing due to its long lifetime. It emits little heat so that no cooling fan is needed. As a result, it works noiselessly.

To achieve optimal images in polarization microscopy, users need strain-free optical components of the microscope and the objectives. They guarantee that the birefringence originates from the sample, not from the optics. For conoscopic, to investigate interference figures, users need a Bertrand lens module which can be optionally added to the microscope.

Leica Microsystems GmbH D 35578 Wetzlar

No matter what the industry, taking the step from providing components to creating long-term partnerships is increasingly the name of the game.

A Big Bioreactor Breakthrough

When Trelleborg Sealing Solutions wanted to break into the highly innovative life sciences industry, the company sought ways to position itself as a provider of engineered solutions.

Peter Krass, Key Account Manager at Trelleborg Sealing Solutions explains: “We were looking for demanding projects where we could show that by partnering with us, customers could get a wide range of products and tailor-made solutions from a single source, tapping into our global network.”

A lucky break came in 2009 when Sartorius Stedim Biotech, a leading international supplier to the biopharmaceutical industry, was scaling up its portfolio of disposable bags for single-use bioreactors to meet market demand.

The project required developing a 2,000-liter bag – a huge challenge that dramatically increased the component requirements. There was massive torque applied to the stirrer inside the bag, and the drive coupling had to withstand very high forces. There were also very strict cleanliness demands. Sartorius already had some basic ideas and was more or less looking for sealing support when it became clear that their ideas would not suffice.

“At the time, we only supplied some standard parts and did not have a very strong partnership,” Krass says. “When we learned about their needs, we arranged a demonstration to show what we could offer.”

Dr. Gerhard Greller, R&D Director Upstream Technology with Sartorius, recalls, “We found out that there was more competence within Trelleborg than we were aware of. They understood the requirements clearly and swiftly came up with a concept for a solution.”

It had all started with a seal, but the Trelleborg concept encompassed an entire assembly, featuring a radial magnetic coupling, designed specifically according to client specifications. Based on the Trelleborg concept, a project team was put together that pooled expertise from the two companies and spanned three countries.

It was key that all team members had a common understanding. So early in the process, Trelleborg brought in technical manager Tim Miller from a Trelleborg site that specializes in plastic bearings in Colorado, in



the United States. “Tim was very competent, and listening to him we all went ‘Aha!’” Greller recalls. “Before that it had been very abstract.”

The magnetic coupling was developed by Trelleborg Sealing Solutions in Colorado while engineering was undertaken in Trelleborg Sealing Solutions in Stuttgart, Germany, and the bag was produced at the Sartorius site in Aubagne, France. The resulting coupling design, the Biostat STR 2000L, was launched in May 2014 and the bags in January 2015.

Sartorius did not know that Trelleborg could handle this kind of project, Greller says, but he adds, “The company is a reliable, competent development partner. There is the technical competence, but also the worldwide business behind it, which means quality and security of supply. They were also willing to invest in finding the best solution.”

The bioreactor bag project has opened the door to more collaboration, and new projects have already started within the bioreactor segment as well as with other Sartorius business units.

“It is all about life-cycle management,” Greller says. “We now discuss with Trelleborg how to improve this product for the next generation.”

The solution

- Sartorius Stedim Biotech’s 2,000-liter disposable bioreactor bag features a radial magnetic coupling using an assembly of special Durobal® and a housing of Zurcon® polyethylene welded to the bag.
- Durobal bearings are ideal in rotating applications, preventing metal-to-metal contact and offering low friction. They are self-lubricating for cleaner operating environments.
- Zurcon engineered plastic-based materials provide low friction, making them ideal for reciprocating, very slow rotating and oscillating applications that require high wear resistance.

Trelleborg AB (publ) SWE 231 22 Trelleborg

Leica DM4 M and Leica DM6 M for Consistent Imaging Conditions and Reliable Results

Leica Microsystems Launches Automated Upright Microscopes for Materials Science and Materials Analysis



Leica Microsystems bringt das Leica DM4 M und Leica DM6 M, automatisierte aufrechte Mikroskope für Materialwissenschaften und industrielle Qualitätsanalysen, auf den Markt.

Leica Microsystems launches the Leica DM4 M and Leica DM6 M upright microscopes for materials investigation. The systems are designed for imaging, measurement, and analysis of similar features across many samples and materials. While the Leica DM4 M is designed for manual routine inspection, the Leica DM6 M is capable of fully automated materials analysis. Automated functions such as the Illumination and Contrast Manager make users' work lives easier because they reduce complex adjustments to the push of a button. Both instruments are equipped with LED illumination. For applications such as steel inclusion rating, particle analysis, phase or grain analysis, users benefit from expert modules of the Leica Application Software (LAS).

Stefan Motyka, Senior Product Manager at Leica Microsystems says: "Users can easily recall microscope settings from previous

work, from any sample type. This enables them to instantly reproduce the perfect imaging parameters at any time – made possible with our Store and Recall software function. What makes these two systems unique is that they are really easy to use. One example: The microscope's one-button Intelligent Automation simplifies any repetitive workflow. The Leica DM4 M and Leica DM6 M reduce training time, improve users' workflows, and yield brilliant imaging results. For example, the 1.25x Panorama objective gives users a fantastic overview over the sample."

The Illumination and Contrast Manager supports users by automatically recognizing the selected contrast technique and objective in use, accurately opening and closing the aperture and field diaphragms, and adapting the light intensity accordingly. LED illumination takes care of homogenous lighting with a constant color temperature at all

intensity levels and any microscope setting. This way, the camera setting and white balance can remain constant as well and do not need adjusting. LEDs are energy-efficient, radiate little heat, and last up to 25,000 hours.

The microscope software Leica Application Suite (LAS) turns the microscope and its accessories such as a camera into an imaging system. "LAS is workflow-oriented and helps users at every step in their tasks. With the Leica DM6 M, a lot of expert modules of the LAS such as Cleanliness Expert, Grain Expert, Phase Expert, or Steel Expert are a valuable help, since they adhere to documentation regulations and enable users to produce reports in a very short time," explains Motyka.

Leica Microsystems GmbH
D 35578 Wetzlar

Gerresheimer and Corning will form a joint venture to accelerate innovations for pharmaceutical glass packaging market

Gerresheimer will sell tubing operations to Corning

- Gerresheimer will sell its borosilicate glass tubing business to Corning
- Corning and Gerresheimer enter into a 10-year-supply agreement for pharmaceutical glass tubing
- Sale proceeds will amount to EUR 196m debt-free
- Corning and Gerresheimer will form a joint venture to accelerate innovations for the pharmaceutical glass packaging market

In line with its strategy to focus on packaging solutions for its pharmaceutical customers, Gerresheimer today announced that it will sell its glass tubing business to Corning Incorporated. Glass tubing is an intermediate product which Gerresheimer manufactures mainly for its own plants, where those tubes are used to manufacture ampoules, vials, cartridges and glass syringes. To a lesser extent Gerresheimer sells tubing to external customers. Gerresheimer and Corning enter into a 10-year-supply agreement for borosilicate glass tubes that secures Gerresheimer's high demand for glass tubing. Corning, with its strong expertise in glass, materials sciences and material innovation, is well-positioned to manufacture and further develop highest-quality glass tubing for the pharmaceutical packaging industry. In addition both companies will establish a joint venture to accelerate innovations for the pharmaceutical glass packaging market.



“In line with our strategy we will focus on our core competency of developing and manufacturing primary packaging solutions and delivery devices serving our pharma customers needs. Corning is an expert in the field of material sciences and glass production and therefore our perfect partner when it comes to serving our needs for highest quality pharmaceutical glass tubes. This is fully reflected in a long-term supply contract between us. Furthermore joining forces with Corning in a venture for innovative pharmaceutical glass packaging products will expand our product portfolio of high-quality

tubular pharmaceutical packaging products”, said Uwe Röhrhoff, CEO of Gerresheimer AG.

Upon closing, Corning will assume ownership of both Gerresheimer tubing plants, i.e. the plant in Vineland (New Jersey, USA) and Pisa (Italy) with approximately 300 employees. The current tubing business of Gerresheimer holds a strong number two position in the global pharmaceutical tubing market. The FY 2014 revenues for glass tubing of Gerresheimer amounted to EUR 83m. The EBITDA margin in 2014 stood at about 23%. The sale proceeds are approximately EUR

196m on a debt-free basis. The closing of the transaction is subject to certain conditions as well as regulatory approval. The closing is expected by the end of 2015.

In addition, Corning and Gerresheimer will set up a joint venture to accelerate pharmaceutical glass packaging innovations. Corning will hold a 75% stake in the joint venture, Gerresheimer 25%.

Gerresheimer AG
D 40468 Düsseldorf

Safe data connection for fast service

Bosch introduces new Remote Service Portal



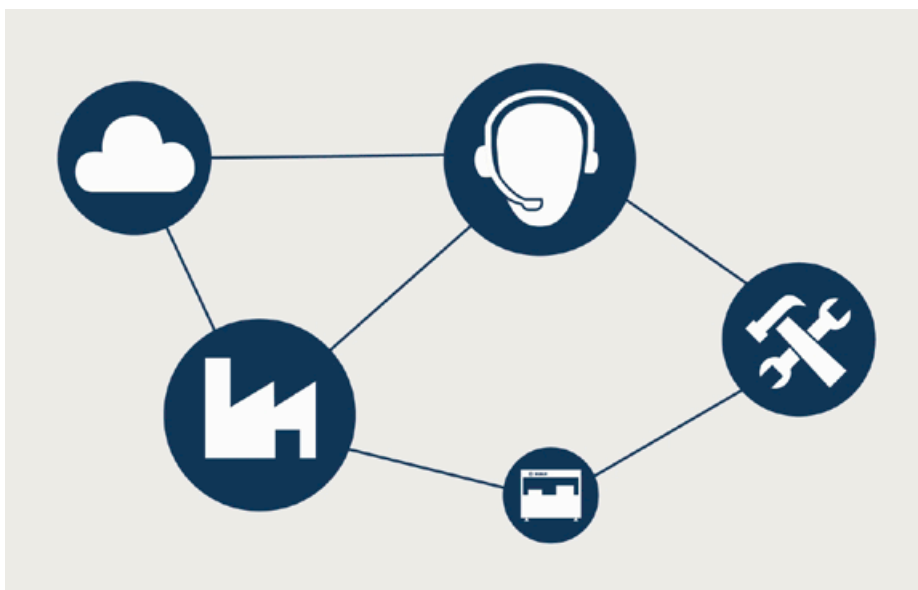
- Efficient service support thanks to remote access
- Remote Service Portal: example for a connected industry solution in the packaging and processing industry
- Latest security standards for safe data transfer

At Achema 2015, Bosch Packaging Technology presented its new Remote Service Portal for the first time. The portal provides a safe data connection between customer machines and Bosch experts to support customers fast and efficiently all over the world. The remote access is for instance suited for machine set-up, the preparation of field service visits, remote diagnostics, troubleshooting in case of machinery downtime, or software updates. With the Remote Service Portal, Bosch Packaging Services has developed a connected industry solution especially for the packaging and processing industry.

“Our service technicians have already supported customers via remote service for several years. The new portal now ensures even more efficient processes. The connections are managed, documented and organized centrally,” Sandro Gisler, Remote Service Portal owner at Bosch Packaging Services, explained. “Customers thus receive an even faster service based on state-of-the-art technology combined with highest data security.”

Benefiting from Bosch expert knowledge

Via the remote data connection, the Bosch experts can access different machinery control components to receive an overall picture. If required, the remote service allows adapting settings and parameters by accessing the HMI (Human Machine Interface) or machine controls. Customers receive concrete support and advice for machine optimization or troubleshooting. “This not only enables us to make remote diagnoses. We can also put our expertise into practice, for instance in case of unexpected downtime. This allows fast reaction times and saves travel expenses,” Gisler said. The remote service is also suited for documentation purposes, such as restoring settings and data after a modernization. “In future, customers will also benefit from the remote technology as far as predictive maintenance is concerned.



Sichere Datenverbindung für schnellen Service: Bosch Packaging Services hat mit dem neuen Remote Service Portal eine Industrie 4.0-Lösung speziell für den Einsatz in der Verpackungs- und Prozessindustrie entwickelt.

By constantly monitoring the condition data of a machine, emergencies can be actively prevented.”

Focus on safety

The portal features a protected VPN connection and a certificate-based encryption. “Only authorized Bosch service staff has access to the connection – and only when customers activate it. This ensures that customers have the sovereignty over the connection and their machine data at all times,” Gisler explained. The new Remote Service Portal supports several machine generations. Even equipment from third party suppliers can be integrated into the portal from Bosch. As a consequence, customers receive support for all their lines from the respective machinery supplier based on one single platform, enabling them to sustainably optimize the interaction of software, hardware and operating staff.

Bosch Packaging Technology
Stuttgarter Straße 130



BOSCH
Technik fürs Leben

D 71332 Waiblingen
Telefon: +49 711 81158502
Telefax: +49 711 81158509
E-Mail: christin.poenisch@bosch.com
Internet: <http://www.boschpackaging.com>

Interview with Werner Matthias Dornscheidt, President and CEO, Messe Düsseldorf GmbH

K 2016 – Innovation takes centre stage



Werner Matthias Dornscheidt, President and CEO, Messe Düsseldorf GmbH

**19.10. 26.10.2016: K 2016,
Düsseldorf (D)**

Mr. Dornscheidt, the registration period for participation in K 2016 closed a few weeks ago. How would you rate the response from the global plastics and rubber industry?

Extremely positive! The demand for exhibition space has risen once again and all of the 19 halls at the Düsseldorf exhibition centre are completely booked up. More than 3,000 exhibitors from all five continents will be taking part and presenting their innovations. The spectrum of participating companies ranges from globally operating industrial groups to start-ups and covers all segments of the world market for polymers. K 2016 will be presenting a panorama of unmatched breadth and depth.

Will all of the companies who have registered actually be able to take part?

We will keep our promise: all companies that registered by 31st May and whose exhibits meet the K 2016 nomenclature will be allocated a stand. In some cases, it might be necessary to compromise on the stand size, but I am confident that we will find a good solution for everyone.

What is so special about K in Düsseldorf? Other industry events have large numbers of exhibitors too.

K is the premiering platform for the plastics and rubber industry. No other trade fair

sparks off so many new ideas. Right now, companies throughout the industry are already working hard to make sure they present themselves in the best light when the date comes around in October 2016. And “in the best light” stands for “with interesting innovations”. Because innovative products are the most important asset in a competitive environment. Only those who can offer new technologies that bring real benefits to their customers will be able to hold their own against strong competition.

Another unique feature of K is its high degree of internationalism, both on the exhibitor and on the visitor side. This guarantees that trade visitors will find world-class products and services in every area covered. And it gives the exhibitors the opportunity to meet industry experts from over 100 countries and establish contacts with potential customers that they might not have been able to reach in other ways.

So innovation will take centre stage at K 2016. Will there be additional offerings providing insights into new developments and perspectives alongside what the exhibitors will be showcasing?

Enterprises from the industry and research institutes will be taking advantage of K 2016 to spotlight developments and future prospects in the plastics and rubber industry. This will be done not only at the exhibitors' stands but also in the extensive supporting programme which offers the trade visitors another range of interesting topics. To mention just two:

The special show in Hall 6 gives insights into how plastics can shape the future and solve tomorrow's challenges – in functional, aesthetic and sustainable ways. Topics like resource efficiency, lightweight construction, new materials and Industry 4.0, and even the controversial marine litter, will be addressed in panel discussions and presented in multiple media. The special show is organised by the German plastics industry under the auspices of PlasticsEurope Deutschland and Messe Düsseldorf.

While the special show is directed at industry decision-makers and also reaches the general public through multipliers and the media, the Science Campus is the meeting

place for the scientific community. This is where institutions, universities and other establishments present their latest research results in the complex field of plastics and rubber and dialogue with industrial users.

With such a broad array of offerings, will the trade visitors be able to find all the highlights at the trade fair?

Yes, of course! K 2016 offers huge variety, but at the same time it is very clearly structured. The exhibition halls are dedicated to the specific areas of:

- raw materials, auxiliaries
- semi-finished products, technical parts and reinforced plastics
- machinery and equipment, and
- services

This structure ensures that each visitor can easily locate the exhibitors most likely to match his or her professional interests. An extensive range of web-based services makes planning very easy before and during visits to the trade fair. As an additional resource, the Innovation Compass is being optimised to allow even better identification of the new developments presented by exhibitors.

The global events calendar for the plastics and rubber industry has seen quite an upheaval recently regarding shifting of dates. How does this affect K 2016?

Thanks to its scope and the unrivalled internationality, K has a very special standing in the world. It is seen as the heart of the industry and the starting point for major decisions regarding products, processes and solutions. One of the key reasons why K is so successful is its concept, which we designed from the very beginning in consultation with manufacturers and processors and their industry associations and have continued to develop jointly with them ever since. This interaction has proved to be a winning combination and ensured that the trade fair has remained the undisputed leader for decades. And right now we are hearing that suppliers and decision-makers have a very high preference for Düsseldorf. People in the industry are rescheduling their events calendar worldwide to ensure that nothing clashes with K.

Messe Düsseldorf GmbH
D 40001 Düsseldorf

29.9. to 1.10.2015: MULTIVAC at FachPack in Nuremberg

Innovative packs for food, medical products and industrial items



At FachPack 2015 MULTIVAC (Hall 3A, Stand 135) will be presenting innovative solutions for the packaging, labelling, marking and inspection of food, life science and healthcare products as well as industrial items. Thanks to its large portfolio of products, the packaging machine manufacturer can offer tailored solutions for many different requirements to customers from a wide range of sectors.

29.09. - 01.10.2015: FachPack 2015, Nürnberg (D)

With its R 105 MF thermoforming packaging machine, MULTIVAC will be presenting an entry-level model for producing Multi-Fresh™ vacuum skin packs. MULTIVAC's product range also includes an extensive array of skin films for MultiFresh™ applications, for which MULTIVAC has tested and approved materials made by leading film manufacturers.

MULTIVAC will be using its R 245 thermoforming packaging machine to show a variety of different approaches to increasing the efficiency of energy, materials and processes. The use of innovative die technology for example allows the consumption of packaging materials to be reduced considerably. The packaging machine is equipped with a MR293TT direct web printer and two MR625 OP cross web labellers for marking and labelling the packs. The I 211 checkweigher is used for a weight check of the packs. The packs are conveyed by an integrated MBS 100 belt system, with the subsequent stacking of the packs being carried out by the MPS 302 pack stacker.

MULTIVAC will be presenting two fully automatic packaging solutions from its tray-sealer portfolio, which are used for packing medium-sized and large batches. The compact T 300 is equipped with a die, which can run trays with a height of 125 millimetres. MULTIVAC will be showing the machine at FachPack in a three-track version with an integrated line converger. It is equipped with a direct web printer with an integrated TTO 10 thermal transfer printer.

The T 800 high-output traysealer that will be shown has an additional automatic tray denester with a tracking unit. The trays are labelled by a L 310 conveyor belt labeller; the packaging line has an I 310 metal detector for quality inspection.



R 081



T 260



C 300 TC Chamber Machine

As regards its chamber machines, MULTIVAC will be presenting the C 200 chamber machine and the C 450 double chamber machine. Thanks to its modular construction, the B 210 chamber belt machine can be adapted to the individual requirements of the particular customer: it is available with two chamber sizes and two different chamber lid heights, and it has a height-adjustable transport conveyor. There is also a flexible arrangement of the sealing bars, and the user can select between different sealing systems.

Packaging solutions for the Life Science and Healthcare industries

Two new models from MULTIVAC's MCP business unit (Medical, Cosmetics and Pharmaceuticals) will be seen at FachPack. The R 081 thermoforming packaging machine is designed for packing products in small batches, and it is suitable for cleanroom applications. This entry-level model can produce vacuum packs and modified atmosphere packs with reduced residual oxygen content.

The T 260 traysealer enables medical products to be packed in accordance with GMP guidelines, particularly with regard to packaging quality, process reliability and cleanroom compatibility. The sealing die ensures that there is controlled sealing pressure with high sealing forces and precise temperature distribution, and this gives a consistently high level of packaging quality.

MULTIVAC will also be presenting the C 300 TC chamber machine for packing medical products in pouches. Its permanently heated sealing bar offers a high degree of process reliability and reproducibility. Thanks to the IPC control of this chamber machine, which can be validated and calibrated, all the processes can be monitored and controlled.

MULTIVAC Sepp Haggenmüller GmbH & Co. KG
D 87787 Wolfertschwenden

Swiss Medtech Expo

«Innovation Symposium»: a series of talks full of innovation



Swiss Medtech Expo is the most important platform for innovation in the medtech segment. The two trade fair days on 15 and 16 September 2015 focus exclusively on innovation and additive manufacturing. At the heart of the SMTE are 150 exhibitors and the „Innovation Symposium“, an event to convey the current status of research and technology trends in Switzerland, Germany and Austria.

15.09. - 16.09.2015: SWISS MEDTECH EXPO, Luzern (C)

On 15 September 2015, the first day of the trade fair, the „Innovation Symposium“ will be dedicated to the topic „Creating mobility – internal and external treatment strategies for the locomotor system“. Treatments affecting the musculoskeletal system make up one of the largest medical markets in the world. Highly qualified speakers at the SMTE will report from the viewpoint of companies and the field of research.

An athletic kick-off

Swiss Paralympic medal winner Christoph Kunz will kick off the „Innovation Symposium“ on the first day of the trade fair. He will speak of his regained mobility and describe what mobility means to a paraplegic and what the key factors are. Christoph Kunz is a successful monoski athlete who has participated in three Paralympics and won three medals.

Knowledge transfer with practical examples

One of the highlights of the afternoon will be the speech by Dr Franz Landauer of Salzburg University Clinic for Orthopaedics. The senior orthopaedist will report on treatment methods at the univer-

sity clinic and their significance. He will use practical examples from paediatric orthopaedics to make participants aware of the correlation between medicine, technology and the time of treatment. He will also point out that the technological possibilities only promise to be successful if the correct medical diagnosis can be made at the right time.

A beneficial series of lectures

The program for Tuesday 15 September 2015 features a total of ten interesting lectures by experts. The reputable series of talks is organised by Dr Urs Schneider, Fraunhofer IPA, Stuttgart and Dr Claas Albers, AO Foundation Davos. The Fraunhofer IPA is a strategic partner of the SMTE and plays a pivotal role in the concept for the trade fair.

Trade fair focus: additive manufacturing

The „Innovation Symposium“ on the second day of the trade fair, 16 September, will focus on the topic of „Additive manufacturing in medical technology“. Clinical users, service providers and researchers report on current and future-oriented projects in numerous lectures.

Messe Luzern AG CH 6005 Luzern

“Pharmaceutical industry should take responsibility to clean up supply-chain of antibiotics”

A frequently overlooked cause of Antimicrobial Resistance (AMR) is environmental pollution related to the production of antibiotic intermediates and Active Pharmaceutical Ingredients (API) for antibiotic drugs, according to a report by US-based organization ‘SumOfUs’. This global movement brings together consumers, investors and activists who campaign for a more sustainable global economy. Based on 200+ independent sources, the report by SumOfUs reveals how the production of antibiotics has become a major contributor to AMR through environmental pollution. The organization calls on the global API-producing and API-using industry to clean up their production and supply chain in order to fight against this global

health issue. DSM Sinochem Pharmaceuticals (DSP) echoes this call and fully supports the campaign.

AMR has been singled out as one of the main risks to mankind by the World Health Organization (WHO) and governments everywhere around the globe. SumOfUs explains how pollution from antibiotic manufacturing can contribute to AMR, due to irresponsible behavior of producers, a lack of regulatory oversight, economic/cost reasons and even lack of knowledge.

Moreover, the report analyses how respected pharmaceutical multinationals remarkably lack transparency on their supply chain, and turn a blind eye to environmental problems associated with manufacturing of

drug ingredients around the globe.

Karl Rotthier, President of DSM Sinochem Pharmaceuticals comments on these findings: “This is a very relevant topic as antibiotics are crucial to human and animal health. The newly published report is instrumental in recognizing that antibiotic resistance is not exclusively caused by its inappropriate use but also environmental factors such as waste and wastewater management. We are actively engaging with stakeholders on all levels to bring this often overlooked factor into the light and I have repeatedly stressed the industry’s responsibility in several interviews.”

Mr. Rotthier said all manufacturers had an obligation to work together to produce

“Pharmaceutical industry should take responsibility to clean up ...”

at the highest quality and meet the strictest environmental standards. “The solution can be summed up in two words: Sustainable Antibiotics.” Mr. Rotthier said. “Sustainable Antibiotics are the only option for our future success – medically, environmentally, and ethically.”

AMR is now estimated to contribute to more than 25,000 deaths every year and costs more than €1.5 billion in healthcare expenses and productivity losses, in Europe alone, according to The European Centre for Disease Prevention and Control. In this context, DSP launched its Sustainable Anti-

biotics Project to help fighting antimicrobial resistance. The project’s ambitions are very much in line with the current ‘Call to Action’ of SumOfUs. This report by SumOfUs calls for three focus points where antibiotics producers and pharmaceutical companies must step up in order to face their responsibilities:

1. High quality and responsible production processes to limit the quantity of antibiotics and other toxic chemicals that are released to the environment;
2. Operate dedicated waste and wastewater management and treatment processes 24/7;

3. Adopt production techniques which minimize the use of chemicals, which in turn reduces the amount of dangerous residues from API production.

The SumOfUS report shows the importance of these focus points. It is a further reason for DSP to follow its ambition to take its responsibility in the battle against AMR. It is also in line with influential reports of the WHO Global Action Plan signed last May 19, the G7 Declaration of June’15 and the Uppsala Health Summit in Sweden this June, where DSP joined to engage in the public discussion too.

DSM Sinochem Pharmaceuticals Netherlands B.V.
NL 2613 AX Delft

Safe and Efficient Documentation of Analgesic Administration

Novel Pharma-Comb Label with Ten Detachable Parts

For a highly potent analgesic, Schreiner MediPharm developed an innovative functional label with ten detachable parts. This sophisticated label design for easy documentation and tracking of medications belongs to the proven Pharma-Comb product family.

Reliable patient care depends upon clearly labeled medicines and comprehensive documentation of their administration. The Pharma-Comb product family helps ensure precise, efficient documentation of medications in patient records, and simplifies routine medical care in practices and hospitals. Pharma-Comb labels include one or more detachable parts that are printed with important information and, if necessary, also allow the physician or nurse to add additional handwritten data. Schreiner MediPharm provides diverse solutions that can be tailored to nearly any specific application.

For a highly potent analgesic filled in small plastic containers and drawn using a pipette, a pharmaceutical customer needed a label with a particularly large number of detachable parts. The Pharma-Comb label developed for this project consists of a sophisticated two-layered construction that offers enough space for product information and ten consecutively-numbered label parts. In addition, the detachable parts contain fields where the date and administered dosage can be manually entered.

The label is wrapped around the container and is easy for the user to open and reseal again. Convenient starter tabs simplify the handling of both layers and also make it easier to detach the label parts, even when wearing gloves. Physicians and nurses can place the individual adhesive labels in patient records. “This facilitates quick and safe documentation and guarantees reliable tracking of the medication. In addition, the danger of possible overmedication is minimized”, Ann L. Merchant, President of Schreiner MediPharm, summarizes the benefits of the newly designed Pharma-Comb label.



The new Pharma-Comb label consists of a sophisticated two-layered construction.

Schreiner MediPharm, a business unit of
D 85764 Oberschleissheim

HEPA-lite Solution for E-Cigarette Production



Built to: create a classified clean environment for their filling process
Size: 2.6 x 0.9m production area
Type: HEPA-lite

What did the client need?

The client, an e-cigarette manufacturer, needed to turn their existing production area into a classified clean environment for their filling process.

How did Connect 2 Cleanrooms help the client?

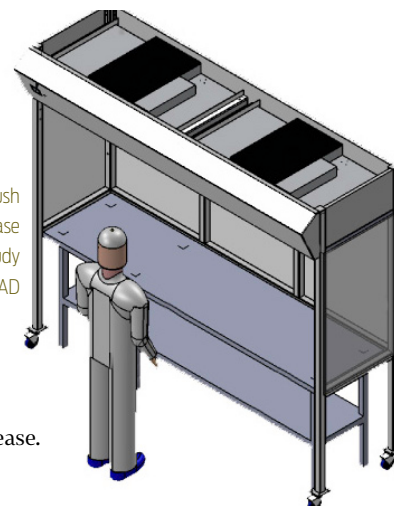
The client initially enquired about purchasing 2 of Connect 2 Cleanrooms' standard HEPA-lite units and positioning them nose to nose over their existing benching.

Connect 2 Cleanrooms had concerns that with this solution the client would not be able to access the control panels situated at the front of each unit, so they designed a unique HEPA-lite solution where 2 HEPA filters were positioned along-side each other and were both centrally controlled by 1 control panel.

How did the client benefit from this solution?

It provided a classified cleanroom production area, which maximised on the client's existing production space and allowed them to manage

Manabush
case
study
CAD

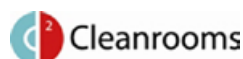


full cleanroom control with ease.

What did the client think?

„Connect 2 Cleanrooms designed us a bespoke clean process solution for the production of our E-liquid - everything from initial contact to planning & construction was carried out with utmost professionalism.“

„We have already recommended them to many of our peers in the industry.“ „As we expand we will be using these guys again and again. Top notch service.“



Connect 2 Cleanrooms

Riverside House, Forge Lane LA2 6RH Halton, Lancashire

Vereinigtes Königreich Großbritannien und Nordirland

Telefon: +44(0)1524 813022 Telefax: +44(0)1524 811589

E-Mail: info@connect2cleanrooms.de

Internet: <http://www.cleanroomshop.com>

DSM Sinochem Pharmaceuticals supports international report on the fight against antimicrobial resistance, revealing underestimated source of environmental pollution and AMR: the production of pharmaceutical ingredients

Connect 2 Cleanrooms build Powder Handling Booths for the Pharmaceutical Sector



Built to: operate to ISO 14644-1 Class 5, EU GGMP A/B

Size: 7m²

Type: Powder handling booth

Class: ISO Class 5 (EU GGMP A/B, Federal Class 100)

Size: 7m² (2.65m x 2.65m x 3.0 high).

Filtration: 4 x variable speed controlled HEPA ceiling fan filter units.

Air changes per hour: 290 air changes per hour

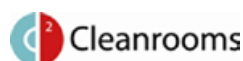
About the enclosure

The enclosure came supplied in assembly kit form to be assembled on site by Engineers. The framework is manufactured from stainless steel Grade 304 with infill panels. This provides an easy to sterilise surface. Anti static PVC curtains to the front for access and can accommodate bulky containers.

The 130% extract air is controlled by 4 x HEPA fan filters. HEPA filtration is H14 grade with efficiency at 99.99% at 0.3 microns. The velocity of the extract air is designed to contain all airborne particulate and provide a safe operating environment for personnel.

Why did the client chose this type of enclosure?

The client, a prominent name in the pharmaceutical sector, required the highly specified powder handling booth to contain all airborne particulate and provide a safe environment for personnel. They approached Connect 2 Cleanrooms with their requirements and the client was happy to proceed after site visits, recommendations and drawings were agreed. The project was installed within 2 - 3 weeks on receipt of order



Connect 2 Cleanrooms

Riverside House, Forge Lane LA2 6RH Halton, Lancashire

Vereinigtes Königreich Großbritannien und Nordirland

Telefon: +44(0)1524 813022 Telefax: +44(0)1524 811589

E-Mail: info@connect2cleanrooms.de www.cleanroomshop.com

BACnet Tested and Certified

Humidity & Temperature Transmitters with BACnet Interface



Die Feuchte & Temperatur Messumformer EE210 (links) und EE160 (rechts) von E+E Elektronik sind mit BACnet MS/TP-Schnittstelle erhältlich. (Foto: E+E Elektronik GmbH)

The EE210 and EE160 transmitters from E+E Elektronik are designed for highly accurate measurement of relative humidity and temperature. Both are now available with a BACnet MS/TP interface for easy integration into a network or bus system for modern building automation.

Unitary digital communication standards in modern building automation allows for easy integration and interaction of devices from different manufacturers. With the BACnet* protocol, the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) has established an internationally recognised network standard for building automation.

Humidity & temperature transmitters EE210 and EE160 have been tested by an accredited BACnet Testing Lab (BTL) for compliance with the global BACnet standard ISO 16484-5. In addition, their full BACnet conformity has been certified by an independent institute. Users can therefore be reassured that the BACnet protocol of the E+E transmitters fully meets the internationally recognised standard.

E+E transmitters are listed on the official website of the international BACnet association (www.bacnetinternational.org) as well as in the certification database of the BACnet Interest Group Europe (www.big-eu.org). As a member of the European BACnet Interest Group (BIG-EU), E+E Elektronik supports the ongoing development and assertion of the BACnet standard in Europe.

The combination of encapsulated measurement electronics and special E+E coating of the humidity sensor makes the EE210 particularly insensitive to contamination and condensation, so it can be employed even under harsh environmental conditions. In addition to humidity and temperature measurement, the EE210 calculates related physical quantities such as dewpoint temperature, frostpoint temperature, absolute humidity, mixing ratio, water vapour partial pressure and specific enthalpy. The transmitter is available for wall or duct mount as well as with remote probe and with an optional display. The typical application for the EE210 is demanding climate control such

as in agriculture (stables, hatcheries, incubators and greenhouses), in storage rooms, cooling chambers or indoor pools.

The EE160 has been developed specifically for use in HVAC applications and is suitable for wall and duct mounting. It is the ideal solution for cost-effective yet highly accurate and reliable measurement of the relative air humidity and temperature.

Besides devices with BACnet interface, the EE210 and EE160 families include versions with Modbus RTU interface or with analog current and voltage outputs, all of them freely user configurable. Outstanding temperature compensation ensures highest accuracy over the entire working range. The innovative enclosure with external mounting holes minimizes the installation costs. The enclosure can remain closed during installation so that the electronics are protected against construction site pollution or mechanical damage.

*) Building Automation and Control Networks



E+E Elektronik GmbH
Langwiesen 7 A 4209 Engerwitzdorf
Telefon: +43 7235 605 0 Telefax: +43 7235 6058
E-Mail: info@epluse.at www.epluse.com

Impressum:

cleanroom online / W.A. Schuster GmbH · Mozartstrasse 45 · D 70180 Stuttgart · Tel. +49 711 9 64 03 50 · Fax +49 711 9 64 03 66
info@reinraum.de · www.cleanroom-online.de · GF Dipl.-Designer Reinhold Schuster · Stgt, HRB 14111 · VAT DE 147811997

Original texts and images

The contributions mentioned by name are the responsibility of the particular author. Reprinting, also of extracts, are permitted only with the approval of the editor and with reference to the source. The publisher does not accept any responsibility for unsolicited manuscripts and illustrations. The publisher is granted the exclusive, spatial, temporal and contentual limited right to freely use the article in unchanged or edited form for all purposes as often as desired or to transfer it to third parties for use. This right of use relates to print and electric media (Internet, databases, data carriers of all kinds).