



Hans J. Michael GmbH



## EJOCLEAN® - Technically clean fasteners from EJOT



Clean room in the EJOCLEAN® Centre - the goods are packed in a clean room in order to prevent re-contamination through air-borne particles.

Technical cleanliness as defined by VDA 19 has established itself as a quality-assuring feature in the automotive sector in recent years. The progressively complex electronic and hydraulic components are becoming increasingly susceptible to particle contaminations. Hence, even a single, electrically-conductive particle in an electronic component can lead to total failure. One particular risk in this respect is particle contamination of driver assistance and safety systems in the vehicle.

Since function-critical vehicle components are having to fulfil cleanliness specifications with increasing regularity, project planning departments have been focussing on the concept of „technical cleanliness“ for some time now. And fasteners are no exception. Even just a few years ago, it would hardly have been conceivable for screws to be subjected to a complex cleaning process, because the cleaning of screws, as cold-formed, galvanically-coated bulk material, presents a very specific challenge. This area has seen a significant increase in investments in the latest cleaning technologies and packaging concepts in recent years.

Because small parts such as screws are cleaned in high numbers per cleaning unit, it becomes necessary to remove the smallest particles from inside a clean-

ing basket, so that they can be extracted and then transported through the cleaning agent in use. After this process, a re-contamination in the downstream process steps, such as packaging and transport, has to be reliably prevented. The relative movement of the screws to one another and the associated re-contamination due to surface abrasion, but also the settling of air-borne particles onto the goods pose the greatest risks.

### EJOCLEAN® concept

From innovative cleaning technologies, to investments into the latest clean room technology to innovative solutions in the field of packaging concepts and coating systems - the fastener manufacturer EJOT has developed comprehensive know-how in this market segment under the brand name EJOCLEAN®. For example, the development of a packaging concept that preserves the clean state of the screws after ultra-fine cleaning. Immediately after cleaning, the parts are apportioned by specifically trained employees in a clean room, and packaged into ESD (Electro Static Discharge) vacuum bags. The relative movement of the parts during transport has been effectively eliminated by

## EJOCLEAN® - Technically clean fasteners

evacuating the air from the packaging bag.

Re-contamination through surface abrasion during on-going internal transport or on the way to the customer is thereby prevented. Moreover, the ESD packaging material can prevent the packaging itself, for example, from becoming a magnet for air-borne dirt due to electrostatic charging.

### Especially suited for direct fastening into metal

EJOT has also taken an innovative approach for the cleaning of waxed screws for direct fastening into metal. As a rule, self-tapping screws made of metal, ALtracs® Plus screws for instance, are used with torque reducing waxes. However, this type of coating does not have sufficient stability to withstand a cleaning process. As a result, the ultra-fine cleaning process impacts the fastening properties. That's why applying such waxes only after cleaning has been state of the art until now. However, the clean state of the parts immediately after cleaning could not be maintained. This was due to an almost inevitable enrichment of residual dirt particles in the wax baths, and also because the final wax coating is another step during which the parts can become contaminated. EJOT therefore developed „EJOSEAL 4C“, a wax which permits the use of a final cleaning process after the wax coating.

To keep abreast of the continuous fur-



In the cleaning plant, the goods are cleaned to the required cleanliness level.



Vacuum packed screws in a small load carrier protected against shocks during transport by air bubble film.

ther development of manufacturing processes in the automotive sector, the cleanliness of function-critical vehicle components will have to meet even higher standards in the future. „Technical cleanliness“ is also gaining importance in technologies outside the automotive industry, since connection technology contractors will soon have to satisfy tougher cleanliness requirements.

EJOT GmbH & Co. KG  
D 57319 Bad Berleburg

In 2014, Bayer HealthCare, a sub-group of Bayer AG, invested several million euros in the Elberfeld plant alone. The focal point is the construction of a new biotechnology facility for the manufacture of cell culture products under GMP conditions.

# Systemc & Solutions GmbH wins major contract for clean room IT systems for new Bayer HealthCare facility in Wuppertal



The fact that GMP IT solutions from Systemc & Solutions were best able to satisfy the requirements in terms of technical demands and clean room compatibility for production under GMP conditions persuaded Bayer HealthCare to choose IT systems from Systemc & Solutions GmbH in Karlsruhe. More than 150 clean room MES and process control system work stations and operating stations were supplied for the new biotechnology facility project. Appropriate to the clean room environment, use was made of the latest generation of high-performance industrial PCs with stainless steel encapsulation, 21.5 inch Full HD IPS panels and touch display. The new 55" HMI systems of the

WAVE series and the mobile platform TROLLEY LIGHT provided some ideal answers to the specific requirements of the customer.



Systemc & Solutions GmbH  
Emmy-Noether-Straße 17 D 76131 Karlsruhe  
Telefon: +49 721 6634 400 Telefax: +49 721 6634 444  
E-Mail: talk@systemc-solutions.com  
Internet: <http://www.systemc-solutions.com>



Systemc & Solutions GmbH

GEMÜ, the leading manufacturer of valves, measurement and control systems for the pharmaceutical industry, has developed the world's first Single-Use diaphragm valve. GEMÜ SUMONDO® represents the long-awaited paradigm change to Single-Use design: From manual systems to automation-capable and controllable plants for safe operation and continual documentation by the plant monitoring system.

# Controlled process reliability with GEMÜ SUMONDO®

The trend towards simplified upstream and downstream plant designs and the effective prevention of cross-contamination risks means that Single-Use disposable technology is becoming an increasingly high-profile and important field – especially in pharmaceutical process engineering. Single-Use design is increasingly being used particularly in the manufacture of smaller batch sizes, which are required, for example, in research and pilot plants.

## CIP/SIP processes are no longer required

The secondary processes for cleaning and sterilisation (CIP/SIP) that are well-known and required for classic stainless material plant designs are in practice no longer necessary at all with Single-Use plants and processes. The necessary purity is guaranteed through the sterilization by gamma rays of all the process components used. This not only reduces the investment costs of such a plant, but also eliminates extremely time-consuming cleaning validation for operating media that are no longer required.

GEMÜ SUMONDO® links the valve body and actuator together using patent-pending locking technology: After the application process, only the valve body is removed, the actuator itself can be reused repeatedly in the plant. The valve body is manufactured from polypropylene in a cleanroom and is gamma irradiated up to 50 kGy. It isolates

the working medium hermetically from the environment and from the actuator through an ultrasonically welded TPE diaphragm. The medium remains closed off from the environment by the welded diaphragm not only during operation, but also after removing the valve body.

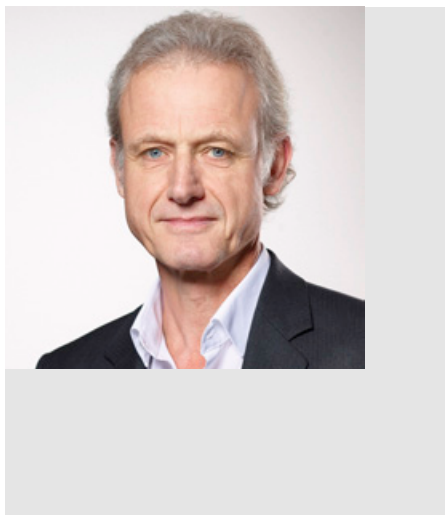
## Reproducible and documentable procedures

The major advantage of GEMÜ SUMONDO® in comparison with conventional pinch valves lies in the exact controllability of processes. Using a tried and tested actuator design from conventional plant engineering, the actuator can also transmit feedback to the plant monitoring system as required to ensure complete monitoring of the controlled system. This means that pharmaceutical processes can be more easily documented, reproduced and validated. The increased levels of automation also mean that the systems are less likely to have faults.

GEMÜ SUMONDO® is initially available in three valve body versions in the nominal sizes 3/8" to 1" with hose barb or clamp connection. The body is available as a straight way, T- and angle valve (right) design. The products are already in use in several testing facilities at development partners.




GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
D 74653 Ingelfingen



Dear readers, dear subscribers,

now it's April 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 newsletter 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

Dr. Friedrich Schneider (53) has been appointed Chief Operating Officer (COO) of the global engineering and construction company M+W Group with effect from March 1, 2015. In this role, he will act as a member of the M+W Group Executive Board alongside Dr. Herbert Demel (CEO) and Wolfgang Homey (CFO).

## Dr. Friedrich Schneider appointed Chief Operating Officer of the M+W Group

Dr. Schneider will be responsible for project operations throughout the M+W Group, as well as the Corporate Departments Engineering Efficiency and Project Risk Management. He will also be promoting further development of important functions and processes, such as consistent procurement and contract management activities.

Dr. Schneider has gained extensive international experience working for various companies in related industries. He studied at the State University of New York and the

European University Institute of Florence (Italy) and holds a doctorate in economics. He subsequently held several management positions at Metallgesellschaft (1990 - 1993), Preussag (1994 - 2001) and Bilfinger Berger (2001 - 2005). For the last eight years, he has worked for ARCADIS, a global engineering and consulting company, as member of the Management Board.

M+W Group GmbH  
D 70499 Stuttgart



Dr. Friedrich Schneider

## Curetis Initiates Clinical CE Performance Evaluation of Unyvero P55 Pneumonia Application

- Clinical study to test more than 400 patient samples
- Follows successful completion of analytical CE Performance Evaluation in more than 400 cartridge runs
- Expected results and product launch in spring 2015

Curetis AG, a developer of next-level molecular diagnostic solutions, today announced the start of the clinical CE performance evaluation of its next-generation Unyvero P55 Pneumonia Application. The new P55 Cartridge will replace the current P50 Pneumonia Application, which was launched in 2012. P55 will offer an even broader panel of pathogens and antibiotic resistance markers, reflecting global changes in the importance of microorganisms and certain critical resistance mechanisms responsible for pneumonia and other lower respiratory tract infections. Final study data and the P55 product will be presented at the upcoming 25th European Congress of Clinical Microbiology and Infectious Diseases (ECCMID) April, 25 - 28 2015 in Copenhagen, Denmark.

The clinical study will evaluate more than 400 already collected native samples from patients suffering from pneumonia. Primary endpoint of the study will be assay performance defined as clinical sensitivity and specificity as compared to microbiology culture, today's diagnostics standard of care. Analytical sensitivity has already been estab-

lished for all panel analytes in more than 400 P55 cartridge runs.

The P55 Cartridge comes with a panel of up to 21 pathogens and up to 19 antibiotic resistance markers. Additions are expected to include e.g. *Mycoplasma pneumoniae*, *Citrobacter freundii*, *Enterobacter aerogenes*, and *Klebsiella variicola* as well as clinically relevant resistance genes coding for carbapenem (imp, ndm, vim and several oxa-markers) and oxacillin (mecC) resistance. These enhancements reflect input from clinical and epidemiological findings, key opinion leaders and customers over the past two years and will support Curetis' global product launch activities.

The new cartridge will replace the P50 Application on the European market. Pricing will remain unchanged, with an international roll-out expected to start in the second quarter of 2015. Under the label LRT55, the P55 Cartridge will also be used as a Lower Respiratory Tract (LRT) Application in the U.S. FDA clearance trial, which is expected to be completed in 2016.

"The landscape of antibiotic resistances

and clinically relevant pathogens is quickly changing. The Unyvero P55 Application underlines our commitment to constantly evolve our multiplex panels to meet the latest medical findings," said Dr. Gerd Lüdke, Director Bio-Assay Development of Curetis. "With P55, we are offering an unparalleled panel of pathogen detection and antibiotic resistance marker analysis suitable to obtain clinically relevant results from any native respiratory patient sample type within 4 to 5 hours."

"The addition of critical carbapenem resistance markers as well as several microorganisms of increased clinical relevance confirms the unique multiplexing capacity offered by the Unyvero Solution," said Dr. med. Anne Thews, Medical Director of Curetis. "We are looking forward to the clinical data of the P55 study and we are truly convinced that this enhanced cartridge will add significant value to our customers in daily clinical routine improving the standard of care."

Curetis AG  
D 71088 Holzgerlingen

# Use of the CDC Biofilm Reactor to Test Cleaning and Disinfection on Rouged Stainless Steel



A. Deal, D. Klein, P. Lopolito, und J. Schwarz von STERIS Corporation Life Sciences Division

## Introduction

In process systems, as in nature, microorganisms rarely exist as single cells or even as pure cultures. Rather they exist as monoculture or mixed culture aggregates of different microorganisms. Microorganisms within a biofilm, such as *Pseudomonas* species, are commonly encased in a slimy matrix of extracellular polymeric substances (EPS) that is important for the microorganism's survival (1). EPS is essential to the increased tolerance to environmental stresses, antimicrobial agents and cleaning agents, an attribute associated with biofilm formation. It is critical to remove EPS prior to sanitization or disinfection.

Pristine process equipment is an ideal, but rarely a reality. An iron oxide deposit known as rouge is a common occurrence in manufacturing vessels, utility lines and many other places where biofilm is found. Rouge is caused by the oxidation of steel by aqueous solutions. The presence of rouge may impact the ability of detergents and biocides to remove biofilm and disinfect equipment by increasing the surface roughness and surface area of substrates. Both of these effects may exacerbate a microbial excursion and promote the development of biofilm.

## Purpose

Stainless steel surfaces with the presence of rouge are a cleaning and disinfection difficulty commonly faced in process systems. Investigated in this study was the challenge to cleaning and disinfection posed by *P. aeruginosa* biofilm prepared on rouged stainless steel coupons in a CDC biofilm reactor system. Cleaning and disinfection using total organic carbon (TOC) surface analysis, visual cleanliness and microbial efficacy testing were evaluated.

**Method**

CDC Biofilm Reactor Disc Preparation:

316L stainless steel CDC discs (coupons) were passivated using a 20% v/v acidic cleaning agent at 80°C for at least 60 minutes (clean coupons). A portion of these passivated coupons were placed in an aerated sodium chloride solution containing mild carbon steel coupons for 7 days (rouged coupons). The prepared rouge can be removed with a 5% v/v acidic cleaning agent at 80°C for 10 minutes with low agitation.

## Method

### CDC Biofilm Reactor Disc Preparation:

Biofilm Generation:

*P. aeruginosa* ATCC® 15442™ was grown on R2A agar for 24 hours, transferred to tryptic soy broth (TSB) (0.3 g/L) and shaken at 130 revolutions per minute (rpm) for 24 hours at 37°C, and transferred again to TSB (0.3 g/L) in the CDC biofilm reactor assembled using the clean and rouged coupons (2, 3). The culture in the biofilm reactor was mixed at 125 rpm for 24 hours in ambient or room temperature (RT) conditions. After the initial 24 hours, the culture was perfused with fresh media (TSB 0.3 g/L) at a rate of 11.7 mL/minute.

## Microbial Efficacy:

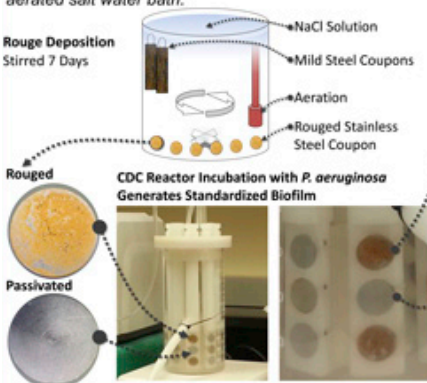
After incubation, coupons were harvested by first dipping them in sterile deionized (DI) water then releasing them into a sterile petri dish. Each coupon was transferred to a 50 mL conical centrifuge tube. The ASTM single-tube method was used to challenge a formulated alkaline cleaner (1% v/v) at 60°C. Biofilm grown on either clean or rouged coupons were challenged with 4 mL of cleaning agents. To neutralize the reaction, 36 mL of cold (~4°C) letheen broth with asolectin and TWEEN® (LAT) were added to the 4 mL of formulation and vortexed. Each neutralized coupon was subjected to three cycles of 30 seconds vortexing at maximum speed and 30 seconds of sonication and sampled to obtain serial log dilutions of the neutralized reaction solution. Dilutions were pour-plated with LAT agar and incubated for 2 day at 37°C.

## TOC Testing:

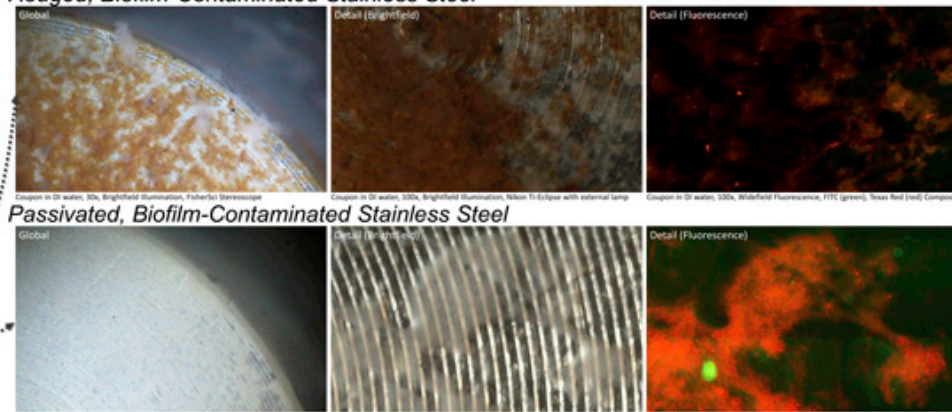
Cleaning with a formulated alkaline cleaner (1% v/v) was evaluated. Cleaned and rouged coupons with and without *P. aeruginosa* biofilm were air dried for at least 24 hours prior to cleaning (4). Treatment consisted of submerging the coupons in 1L of cleaner pre-heated to 30°C and agitated with stirring at 300 rpm. Coupons were cleaned for 5 minutes, rinsed with DI water then swabbed with low TOC polyester swabs. Swabs were then sonicated in 40 mL of DI water for 15 minutes and analyzed for TOC.

## Generating Rouged, Biofilm-Contaminated Stainless Steel Coupons

Rouged Coupons were Generated from Passivated 316L Stainless Steel by exposure to mild steel in an aerated salt water bath.

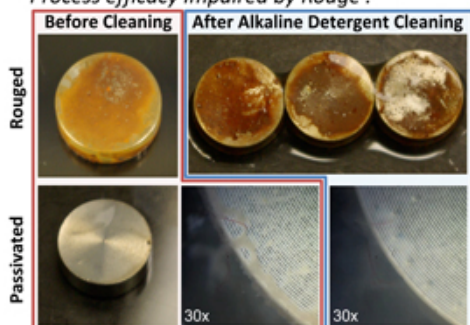


## Rouged, Biofilm-Contaminated Stainless Steel

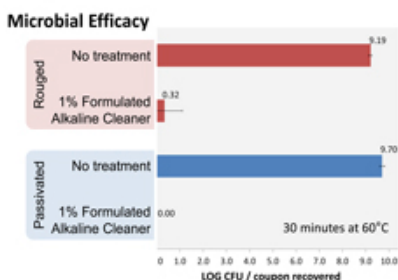


### Assessing Cleaning

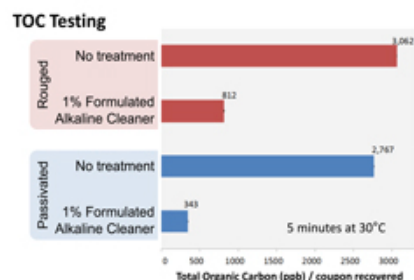
Visual Inspection Provides a Gross Estimate of Process efficacy Impaired by Rouge .



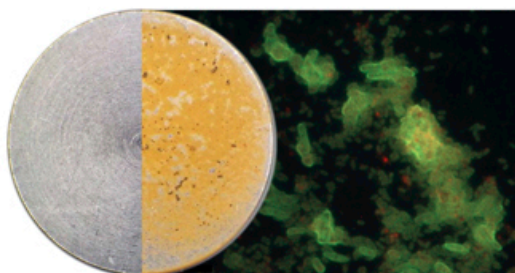
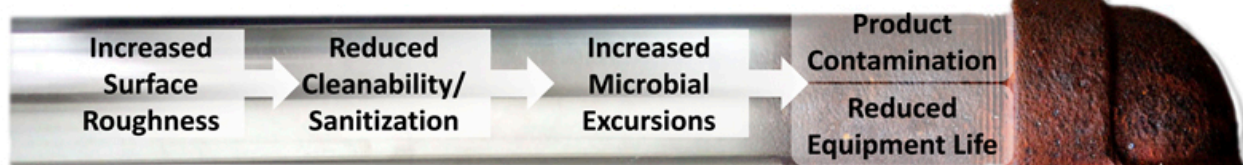
ASTM E 2871-13 (Single-Tube Method) Quantifies Roughed Biofilm Coupon's increased resistance to Disinfection.



Total Organic Carbon (TOC) Analysis Quantifies Roughed Biofilm Coupon's increased resistance to Cleaning.



## Effects of Rouge in Industry Case Study



Poor Cleaning Regime Leads to Multi- Species Biofilm:

- Ralstonia pickettii*
- Pseudomonas fluorescens*
- Bacille non revivifiable*
- Burkholderia cepacia*

Lab testing defined cleaning parameters



### Requiring Remediation Measures

- Review equipment design and critical parameter limitations
- Formulated *Alkaline* detergent pre-cleaning (8% v/v, 40°C for 3 hours)
- Formulated *Acid* detergent rouge removal (20% v/v, 70°C for 4 hours)
- Sporicidal Disinfectant (5% v/v, 20C for 5 hours)

\*Concentration, temperature and time may vary based on application

### Conclusion

The CDC biofilm reactor and supporting ASTM methods provide a standardized, reproducible system for assessing the cleaning and disinfection challenge posed by biofilm. This study combined these standard methods with STERIS methodology for si-

mulating rouged surfaces to first generate a model of rouged stainless steel and then demonstrate, qualitatively and quantitatively, that rouge can increase the cleaning and disinfection challenge posed by biofilm. Biofilm contamination is a substantial challenge to maintaining clean and disinfected processes. Rouged surfaces can accelerate

surface fouling, promote biofilm development and exacerbate a microbial excursion. This synergistic relationship can quickly yield tenacious rouge/biofilm aggregates similar to those simulated in this work. The increased cleaning challenge demonstrated here highlights the need to employ effective cleaning, preventative maintenance, and disinfection strategies in a contamination control program.

### References

(1) Hall-Stoodley, L. and Stoodley, P. (2002) Developmental Regulation of Microbial Biofilms. *Current Opinion in Biotechnology*. 13:228-233.

(2) ASTM E2562 – 12 Standard Test Method for Quantification of *Pseudomonas aeruginosa* Biofilm Grown with High Shear and Continuous Flow using CDC Biofilm Reactor.

(3) Buckingham-Meyer, K., Goeres, D.M. and Hamilton, M.A. (2007) Comparative evaluation of biofilm disinfectant efficacy tests. *Journal of Microbiological Methods*. 70: 236-244.

(4) Dell'Aringa, B., Deal, A., Klein, D., and Lopolito, P., (2013) The Use of CDC Biofilm Reactor to Test Cleaning Agents, Poster, Center for Biofilm Engineering Conference, Montana State University, Feb 5-6th, 2013.



STERIS Deutschland GmbH  
 Eupener Strasse 70 D 50933 Köln  
 Telefon: +49 (0)821-56996494  
 Telefax: +49 (0)821-56996496  
 E-Mail: Andrea\_Haselmayer@Steris.com  
 Internet: <http://www.sterislifesciences.com>

The high performance, dynamism and consistency of Stäubli robots has made them a benchmark in the food industry. In recent years, the Swiss manufacturer has invested heavily in pioneering improvements and new developments to meet the sector-specific requirements for the many and varied applications in food processing.

## Complete solutions for the food industry

# STÄUBLI Tec-Systems GmbH

„We at Stäubli currently offer by far the broadest and most powerful assortment of robots for the food industry,“ says Gerald Vogt General Manager Stäubli Robotics Germany confidently. He should know, as prior to his appointment in mid-2014 to the Stäubli Management, he spent many years directly supervising the development of robotics at the main factory in Faverges.

The machines that emerged from this period are now regarded as the reference point for food applications of all kinds. Stäubli has the right solution for every task, from straightforward primary or secondary packaging to ultra-fast handling processes and operations involving covered and uncovered products under the strictest hygiene conditions. The extensive range of picker, SCARA and six-axis kinematics can be configured into various versions designed for special applications.

Identification of the right robot for the job can quickly be performed by reviewing the profile of the relevant application. Important parameters may be cycle times, range and payload, hygiene requirements, ability to cope with cleaning processes and so on. Once these criteria have been clarified, the choice of optimum kinematics - SCARA, six-axis or picker - is generally obvious. It then remains to select the appropriate special version.

### Abundant special designs

Stäubli robots can be adapted for the most diverse of foodstuffs - bread, pasta or cakes, meat and fish or dairy products, frozen foods or fruits and vegetables - and for a variety of processes - filling, dispensing, cutting, handling, labeling, sorting, packing and palletizing. The big advantage here is that the entire Stäubli robot range can be lubricated with NSF H1 food grade oil which has been developed in close collaboration with a specialist partner company to meet the specific requirements of the Stäubli robot drives and to prolong service life to the absolute maximum. Furthermore, the dynamics of the robot are not impaired in any way: they can attain maximum performance with H1 oil and are not subject to the sort of restrictions that apply to machines supplied by other manufacturers in the market.



TP80 production line for highly complex sorting and packaging tasks.

After making the decision on whether to use H1 oil, the next choice is between standard, cleanroom or HE specification. Gerald Vogt: „To exclude the growth of bacteria and molds, the production and processing of foods is increasingly taking place in cleanroom environments conforming to ISO Classes 5 to 8. It is therefore a major plus point that even the standard versions of Stäubli robots are cleanroom compliant. If the standard models are still not within spec, optional cleanroom versions can be supplied up to ISO2.“

### Cleanroom versions for germ-free production

The fast SCARAs of the TS series equipped with bellows conform to ISO 6 cleanroom standard. These high-precision machines boast a repeatability rate of  $\pm 0.01$  millimeters and are ideally suited for a widest range of applications in the food industry thanks to their smooth, easily cleanable surfaces, their cleanroom compatibility and their excellent performance.

With the six-axis robots of the TX and RX series, Stäubli has taken cleanroom compatibility to the next level. All six-axis robots are characterized by their unique, fully enclosed design with internal cabling and integrated drive technology. As a result, the robots are

easy to clean, and even the standard version complies with ISO 5 cleanroom specification. The designated cleanroom versions of these robots are distinguished by the CR suffix and comply with ISO 4. The so-called „Super-cleanroom“ class of certain six-axis models in the TX series has been upgraded to ISO 2 and can be deployed in virtually germ-free processes.

### HE robots: Benchmark for strictest hygiene conditions

Proving especially popular in the food industry are the HE versions of the Stäubli robots which are able to handle loads of up to 150 kilos. The additional designation HE stands for „Humid Environment“ and signifies Stäubli models which have been specifically modified for use in damp areas or are exposed to spray. They are also in great demand for applications that call for the most stringent hygiene conditions. HE robots successfully cope with the daily round of cleaning processes; whereas the aggressive treatment would soon finish off a conventional robot, the HE versions carry on operating with their customary reliability.

„Without our HE robots, it would be impossible to automate certain food applications whilst complying with the strictest

## STÄUBLI Tec-Systems GmbH

hygiene specifications," adds Vogt. „They require intensive cleaning and sterilization processes which no other robot would be able to withstand over a lengthy period. With the HE machines, we have been able to open up new horizons in the food sector, contributing significantly to higher productivity and making the factory environment more worker-friendly.“

### High-speed picker for sorting and packaging tasks

Another superlative has been claimed by a new high-speed robot developed principally for sorting and packing applications in the food industry. The TP80 Fast Picker achieves a pick rate of more than 200 per minute, thus paving the way for new concepts and strategies in the handling, sorting and packaging of foodstuffs. Gerald Vogt: „The Fast Picker has been designed specifically for applications in the food industry. It is easy to integrate and does not have to be ceiling mounted directly above the sensitive foodstuffs passing underneath. We are also bringing out an HE version in the very near future.“

The Fast Picker has been fine-tuned for uncompromising reliability and precision.

The four-axis machine can operate in large work spaces with a diameter of 1.6 meters and achieves an impressive repeatability rate of  $\pm 0.05$  mm. High precision is maintained even after many thousands of operating hours.

### Complete solutions in focus

Used in conjunction with the new LINE-manager load-sharing software, the TP80 is a formidable complete solution. The tool has been designed for highly complex picking, sorting and packaging tasks where a 100% reliable solution is required for multiple robots working on a single conveyor belt. The software package manages the complete synchronization of the line by coordinating the speeds of all the robots as well as the feed and discharge belts.

Stäubli has further software solutions on offer for the food industry, allowing users to easily operate the robot components as well as the programming of the entire production line.

Gerald Vogt: „With the introduction of the HE series, the launch of the TP80 Fast Picker and innovative software solutions, Stäubli has further consolidated its leading market position in the food industry. For Stäubli, the food sector is now a hugely im-



TP80 seen here slicing baked goods with a cycle time of 220 cuts per minute.

portant market on which we continue to focus strongly. Working in partnership with producers, we aim to promote automation in the food industry with yet more pioneering developments, thereby improving safety, efficiency and productivity.“

Stäubli Robotics (Deutschland)  
D 95448 Bayreuth

## Worldwide innovation: The first cavity-free clamping lever

# Clamping lever to Hygienic DESIGN

A normal clamping lever is designed as an open construction, where foreign matter such as food particles can get into the lever and accumulate there. Particles caused by internal wear can also fall out. This leads to problems in hygienic demanding areas. For this reason NovoNox has developed the first clamping lever to Hygienic DESIGN that is completely hermetically sealed.

By the new Hygienic DESIGN clamping lever from NovoNox, the construction space between the grip and the screw shaft is completely sealed with a special shaft seal. The grip is a single casting and also has an hermetically sealed outer surface. No dirt, no product residue and no cleaning agents can get into the inside of the lever, or excrete from the inside out.

The shaft of the screw is polished by a patented polishing method to an average of finish less than ca. Ra 0.2. Foreign matter and liquids scarcely adhere to the surface, making cleaning extremely easy. The clamping lever has no cavities where germs and bacteria can form to contaminate the screw point and the product.

All exterior metal parts are made of non-rusting stainless steel of the material grade 1.4404 and fulfil the stringent regulations of the foodstuff industry, pharmaceuticals and medical technology.

As by the screw and seal system Hygienic USIT® the screw point for the NovoNox clamping lever is also designed for use with the Hygienic USIT® seal and shim washer. During tightening, the seal bulges out over the collar surface until it has adapted to the collar contour. The sealing bead cannot be overtightened as the screw connection was previously axially tightened. The screw point is completely sealed



and conforms to the hygienic requirements in Hygienic DESIGN and also the stringent requirements of EHEDG.

The NovoNox clamping lever and the screw point are produced according to Hygienic DESIGN and permit easy, hygienic and safe cleaning of the system without dismantling by CIP (cleaning in place), WIP (washing in place) and SIP (sterilization in place) methods.

NovoNox Inox Components D 71702 Markgröningen



RAUMEDIC, the development partner and system supplier for polymer-based components and systems in the medical technology and pharmaceutical industry, is investing 27.1 million US dollars to construct a new production center in the US. With the decision to build the US headquarters with development center and clean room production in North Carolina, RAUMEDIC provides its North American customers a local service center. RAUMEDIC sets its course for another positive growth development in the largest and most innovative medical market in the world.

## RAUMEDIC is building a development center and high-tech production plant in the US

RAUMEDIC Inc., has been distributing tubing, molded parts and catheters, which until now had been produced exclusively in Germany, to North America for over ten years. „Our new production center in the US will combine the strengths of our German and American engineering. This will give rise to high-quality polymer extrusion, injection molded and assembled products for our North American customers. Henderson County in northwestern North Carolina offers us experienced and skilled employees and the ideal business environment for our investments,“ says Martin Bayer, CEO of RAUMEDIC AG.

RAUMEDIC has over sixty years of experience in plastics processing. Selected cutting-edge technologies include micro extrusion with an interior diameter of 0.004” (0.1 mm) and a multilayer structures including encapsulated radiopaque stripes, multi-

component injection molding with hard/soft combinations, film blowing and the fully-automated assembly processes including 100% camera control. Based on its decades of chemistry- and raw-material competence, RAUMEDIC processes all common medical-grade thermoplastics and silicones. These include own compounds and high temperature polymers such as PEEK, FEP and PTFE. Based on demand, RAUMEDIC will implement these technologies at its new location.

RAUMEDIC will invest 27.1 million US dollars by 2022. 10.6 million of this will go towards the construction of the new building, including a state-of-the-art clean room production facility. A two-story administration and production building with a total area of 60,000 ft<sup>2</sup> (5,600 m<sup>2</sup>) will be built in the open countryside. Up to 22,000 ft<sup>2</sup> (2,000 m<sup>2</sup>) of this will be available for production. RAUMEDIC Inc. will start there in January

of 2016 with more than 50 employees and increase this number gradually to over 100. This will create long-term jobs for specialists in the areas of clean room production, engineering, research and development, laboratory work, logistics, marketing and sales and administration.

As a part of the REHAU Group, a family company for polymer solutions active worldwide with 18,000 employees, RAUMEDIC is already expanding its German headquarters in Helmbrechts, Bavaria at a cost of around 32 million US dollars. This will create another 190 jobs in the upcoming years. With both investments, RAUMEDIC is setting a course for further positive growth and its international commitment as a polymer specialist in the medical and pharmaceutical industry.

Raumedic AG  
D 95233 Helmbrechts

### Redipor flexibly meets customer and regulatory expectations

## Cherwell Releases New Redipor® Prepared Microbiological Media Product Information

Cherwell Laboratories, specialists in cleanroom microbiology products, have announced the availability of their 2015 Redipor® prepared microbiological media price list. The extensive Redipor range, manufactured at Cherwell's ISO9001 registered site in Bicester offers ready-to-use media, including Petri dishes, contact plates, bottles and broth bags, designed to meet the rigorous requirements of the pharmaceutical and related industries. The new price list provides a starting point for discussion of more individual needs and is available on request from [www.cherwell-labs.co.uk](http://www.cherwell-labs.co.uk), alongside further information on Cherwell's other environmental monitoring, validation and biodecontamination products.

With over 40 years' experience, Cherwell has built a strong reputation for providing high quality products alongside a friendly, customer-focused service. Despite signifi-



cant company growth, fuelled by increasing demand for Redipor prepared media throughout the UK and across Europe, Cherwell have retained flexible production methods and managed stock levels, ensuring they can continue to deliver cost effective, timely solutions for customers.

Offering an extensive selection of both industry standard products and those with a unique formulation or presentation, the Redipor range provides a flexible solution for environmental monitoring, sterility testing of products, operator validation and process validation. The range includes petri dishes

(55mm, 90mm and 140mm) and contact plates, plus bottled media, broth bags and ampoules, with all products subjected to a full array of QC tests, including comprehensive growth tests. Cherwell can also discuss specific requirements and work with individual customers to ensure their needs are met.

“As a family owned business, we understand the importance of maintaining good communication and relations with all our customers to ensure we continue to meet their exact requirements,” said Andy Whitard, Managing Director, Cherwell Laboratories. “Over the years, the reputation of the Redipor brand has been built on our flexibility and willingness to adapt efficiently to changes in both customer and regulatory expectations.”

Cherwell Laboratories Ltd OX26 4XB BICESTER  
Vereinigtes Königreich Großbritannien und Nordirland

Testo Industrial Services hat mit dem Huminator II die nächste Generation des Feuchtekalibrators entwickelt. Die Feuchtekalibrierung von Messgeräten, Fühlern und Datenloggern aller Hersteller wird durch einen größeren Messbereich, eine höhere Fühlergenauigkeit und mehrere neue Features des neuen Gerätes beschleunigt und vereinfacht.

# Flexible, precise, mobile: The Huminator II



## Precise humidity calibrations

The large measuring chamber provides enough space for up to five sensors or several data loggers at the same time. An optimal insulation of the chamber in conjunction with a special sealing adapter plate ensure the stability of the measuring values in a wide range of temperature and humidity.

With the help of a Peltier-element, the integrated temperature regulation generates and stabilizes temperatures in a range from 5°C to 50°C. Relative humidity can rapidly be produced in a range from 5 %RH to 95%RH by a high performance humidification system. Due to this the stabilization time is reduced to a minimum, e.g. from 35 %RH to 80%RH it only amounts 3 minutes.

The timely programming function allows a large degree of automation of calibrations since up to 10 humidity and temperature values can be retrieved automatically one after another. The stability time can be selected freely.

“Due to the new Huminator II the measuring of humidity and temperature is more precise and the calibration of the measuring instruments, sensors and data loggers is accelerated. Thanks to the fast stabilization time the Huminator can quickly be utilized. Furthermore the large degree of automation by using the timely programming function makes the process easier as it enables the setting of up to ten humidity and temperature values. The Huminator II is a reliable and efficient complement to your calibration equipment”, states Daniel Prill, product manager.

## Easy to use with the touch display

With the help of the touch-display the measuring values are comfortable to control and the tabular and graphical evaluation of the measured values is ensured.

## Removable reference sensor

The Huminator II is equipped with a reference probe which is integrated into the measuring chamber but which is nevertheless easily accessible. It can be exchanged without any problems and sent for recalibration.

## On-site use

The intelligent use of materials results in a total weight of less than 20 kg and a compact size of the instrument. The optimal protection of the Huminator II is given by an optionally available transport trolley, promising easy handling during the on-site use.



Testo Industrial Services GmbH - Deutschland  
Gewerbestr. 3 D 79199 Kirchzarten  
Telefon: +497661/90901-8000 Telefax: +497661/90901-8010  
E-Mail: gmp@testotis.de Internet: http://www.testotis.de



The capacious measuring chamber enables the calibration of bigger instruments. (Picture: Testo I. S. GmbH)



The new Huminator II features a highly accurate humidity calibration. (Picture: Testo I. S. GmbH)



The perfect instrument for mobile applications: the low weight and its compact size distinguishes the Huminator II. (Picture: Testo I. S. GmbH)

Compact Housing, High Protection Class, Easy Mounting

# New Temperature Sensor Series for HVAC and Building Technology



E+E Elektronik expands its product range with various sensors for passive temperature measurement for HVAC and building technology. The compact, innovative enclosure with protection class IP65/NEMA 4 facilitates easy and fast installation of the sensors. Due to external mounting holes the sensors can be installed with closed housing, which protects the device from building site contamination. The new temperature sensors line matches the design of the successful E+E humidity, CO<sub>2</sub> and air velocity sensors. The result is a comprehensive HVAC sensor choice, with a uniform look, from a single manufacturer.

## EE431 duct / immersion temperature sensor

The EE431 duct sensor is ideal for the measurement of air temperature in heating, ventilation and air conditioning systems. In air ducts the sensor can be installed with the mounting flange and easily accessible inclined fixing screw. For measurement in liquids the sensors are mounted with an immersion well with innovative fixing clamp.

## EE441 strap-on temperature sensor

The EE441 strap-on sensor can be fixed with a hose clamp onto ducts and pipes. Typical applications include heating systems (hot and cold water pipes) and solar collectors. The aluminium contact surface ensures very good heat transfer and a fast response time.

## EE451 wall-mounted temperature sensor for indoor and outdoor

The EE451 can be used both indoors and outdoors for weather-dependent temperature control of heating, ventilation and air conditioning systems. A mounting bracket keeps the sensor at a distance from the wall, minimizing the wall temperature influence on the measurement of the air temperature.

## EE461 cable temperature sensor

The EE461 cable temperature sensor is available with 0.5m to 3m cable length. The innovative star pressing of the sensor sleeve ensures IP65/NEMA 4 protection class. All product-specific information is printed on the cable. For temperature measurement in fluids the EE461 can be used with an immersion well.

## EE471 temperature sensor with remote probe

The EE471 is available with various ca-

ble lengths between the sensing probe and housing. It can be used for measurement in the air as well as, with an immersion well, in liquids. Both the probe and the enclosure are IP65/ NEMA 4 rated.

**E+E**  
ELEKTRONIK

E+E Elektronik GmbH  
Langwiesen 7 AT 4209 Engerwitzdorf  
Telefon: +43 7235 605 0 Telefax: +43 7235 6058  
E-Mail: info@epluse.at Internet: <http://www.epluse.com>



Figure 1: Passive temperature sensors for HVAC and building technology from E+E Elektronik. (Photo: E+E Elektronik GmbH)



Figure 2: EE431 duct sensor with immersion well (left) and EE471 with remote sensing probe (right). (Photo: E+E Elektronik GmbH)

Eleven launches on one booth (Achema 2015)



# Bosch Packaging Technology: extensive line competence



- Exemplary line concepts for different therapeutic areas
- Development, production, filling and packaging of solid and liquid pharmaceuticals tailored to customer needs
- Comprehensive consulting and services before, during and after start-up

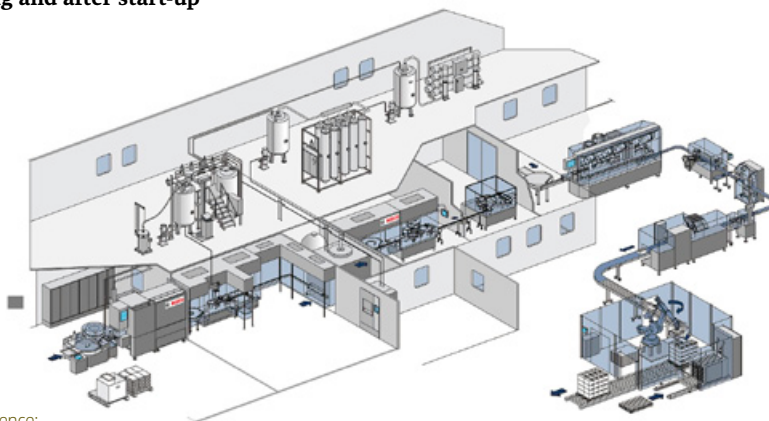
15th - 19th June 2015: Achema 2015,  
Frankfurt am Main (D)

At Achema 2015, Bosch Packaging Technology, a leading supplier of process and packaging technology, focuses on its line competence. Trade show visitors can expect eleven market launches for the pharmaceutical and biopharmaceutical industries on a floor space of over 1,000 square meters. With a combination of exhibits and multimedia presentations, Bosch showcases exemplary line configurations for different therapeutic areas. "Whether customers need a complete line for the production and packaging of oncology drugs, for treatment of diabetes or gastric ulcers, or a solution for eye drops or cough syrup – Bosch is the competent partner for all pharmaceutical requirements," explains Christian Treitel, head of pharma business development at Bosch Packaging Technology.

## Exemplary lines for solid and liquid pharmaceuticals

Bosch presents line configuration examples for the manufacturing of tablets for diabetes treatment, as well as for capsules that are administered to cure gastric and intestinal ulcers. The new Hüttlin granulation line Granulean, which is available in three standardized sizes, can for instance be connected to the new Manesty TPR tablet presses via suitable handling and transfer equipment. The capsule line comprises precise dosing, amongst others of pellets, as well as filling on the new GKF 2600 capsule filling machine, followed by inspection and transfer to the packaging process.

On the basis of different therapeutic areas and packaging types, three exemplary lines for liquid pharmaceuticals further illustrate Bosch's line competence. For instance, equipment for all process steps of oncology drugs administered in vials is available: from Pharmatec bioprocess systems to highly precise filling, integration of freeze-drying and capping to external cleaning of vials



Focus on line competence:

At Achema 2015, Bosch Packaging Technology showcases exemplary line concepts for the production, processing and packaging of pharmaceuticals for different therapeutic areas. (Picture: Bosch)

with the new RAN washing machine. Apart from particle and cosmetic inspection, Bosch also presents a new inspection machine for leak detection. Furthermore, Bosch offers cartoning machines with sophisticated serialization and aggregation solutions for the secondary packaging process.

## New developments based on pharmaceutical requirements

An exemplary syringe line shows how customers can efficiently produce, fill and package their drugs for the treatment of autoimmune disorders. Process systems for the production of active pharmaceutical ingredients and a new system for the generation of WFI (water for injection) are followed by formulation and filling on the flexible platform for pre-sterilized syringes with single-use filling systems. The latter can be combined with barrier systems and further equipment such as the new wireless glove tester. The line is complemented by particle and cosmetic inspection, further downstream equipment and complete secondary packaging solutions.

The manufacturing and filling process of liquid pharmaceuticals into cartridges is illustrated by the therapeutic area of diabetes care. The line starts with water treatment and insulin production systems, followed by market-leading filling and closing machines. Once the cartridges have been inspected, the

insulin pens are assembled on the fully automated assembly platform from Moeller & Devicon, before they are packaged, serialized and aggregated. Many further components, such as CIP/SIP systems and equipment sterilizers, can be added to the line. "Depending on therapeutic area and dosage form, customers receive lines that are tailored exactly to their requirements, with ideally aligned machines and systems. At the same time, all new developments are based on pharmaceutical requirements," Treitel underlines.

## Highly flexible line configurations

For ophthalmologic applications, Bosch showcases a Sigpack HSL horizontal flow wrapping machine, which is loaded with vial cards via a Sigpack LDF feedplacer. The eye drops, which have been filled with the blow-fill-seal technology, are packaged and hermetically sealed in aluminum compound film to secure products from water vapor and light exposure. An exemplary animation shows how liquid oral dosage forms such as cough syrup can be filled in glass and plastic bottles. Bosch also offers the suitable process technology for these types of medication, as well as the high purity media systems and product sterilizers that are required for after-treatment. Moreover, all line configurations can be flexibly combined with further inspection devices, handling equipment and secondary packaging machines. The requ-

## Bosch Packaging Technology

sted serialization features are applied to the packaging before aggregation.

### Comprehensive consulting and services

“Beyond machine technology, we support customers with market-specific expertise, as well as detailed project and integration competence,” says Christian Treitel. With additional services and comprehensive consulting before, during and after start-up, Bosch ensures that all customer needs are satisfied. This also includes qualification and validation of the lines. Furthermore, the worldwide training platform Bosch Packaging Academy, which was founded in 2014, offers customers and employees a standardized knowledge pool for the entire Bosch Packaging Technology machine portfolio.

Bosch Packaging Services supports its customers with sophisticated maintenance concepts to achieve the highest machine availability with less downtime and reduced costs. Apart from conducting maintenance activities based on electronic protocols, Bosch offers services such as thermography and cleaning of control cabinets. A large range of modernization and technical audits, as



New granulation line Hüttlin Granulean: The new granulation line Hüttlin Granulean is available in three standardized sizes and includes all process steps from mixing and drying to granulating. (Picture: Bosch)

well as remote services help customers to flexibly adapt their existing machines and lines to future market requirements.

### Automation technology from Bosch Rexroth

Bosch has set the course for automation technology: the continuous system solution IndraMotion MLC from Rexroth offers a future-proof drive and control technology that also fulfills the growing demands for networked machines and systems on the basis of Open Core Engineering. This way, the automation technology rounds out Bosch's line competence.

Bosch's technologies are on display at Achema in Frankfurt/Main, Germany, from 15 to 19 June, hall 3.1, booth C71. fen den Kunden, ihre bestehenden Anlagen flexibel an künftige Marktanforderungen anzupassen.



**BOSCH**  
Technik fürs Leben

Bosch Packaging Technology  
Stuttgarter Straße 130 D 71332 Waiblingen  
Telefon: +49 711 81158502 Telefax: +49 711 81158509  
christin.poenisch@bosch.com www.boschpackaging.com

**MEDTEC, Stuttgart, April 21 to 23, 2015, Hall 5**

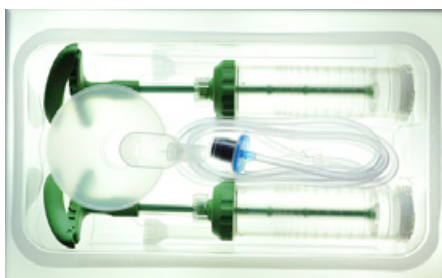


## Spang & Brands Premium Plastics Technology for Medical Devices and Pharmaceutical Applications

**21st - 23rd April 2015:  
Medtec Europe, Stuttgart (D)**

At this year's MEDTEC in Stuttgart, Germany, from April 21st to 23rd in Hall 5, Stand 5 E 61, Spang & Brands GmbH exhibits a broad range of innovative medical device solutions for specific applications, also in two-component moulding technology. Among the exhibits are syringes, cannulae, pierceable membranes, implant components, and components for minimally invasive surgery. In addition, connection and transfusion systems, products for dentistry as well as fully assembled devices are on display. Beyond that, the company, based in Friedrichsdorf in Germany, shows ready for sale systems, such as bone cement mixing and dosing systems, not forgetting dosing containers and precision dispensers for liquid, pasty as well as solid and free-flowing pharmaceuticals.

“Our clients require a high degree of ac-



curacy – to one thousands of a milli-metre – and often even tighter tolerances. That is part of our everyday business. We benefit from engineering knowhow that has developed continuously over decades. Based on that we have specialised in precision and clean-room injection moulding technology for the medical and pharmaceutical industries“, explains Friedrich Echterdiek, the company's managing director. Due to CAD-3D development, MoldFlow analysis, a state-of-the-art mould making and conscientious pre-series testing Spang & Brands is able to introduce

new developments with sound technological solution approach to marketability.

A vital link in the success chain is the new in-house technology center in Friedrichsdorf, opened last year. Here, the strong basis for a successful new product series begins with the initial concept, continues with materials suitability tests and mould making, to advance to pilot injection moulding testing. Next in the progression is the moulding division, with its approximately 60 injection moulding machines, many of which are all electric, several of them in the clean-room, followed by clean-room assembly and, finally, to sterile packaging. Part of the service Spang & Brands provides embraces all appropriate validations customers may require, including FDA-Approval. GMP and strictly protocolled quality surveillance are standard; the company has recently been certified ISO 13485.

“Companies within the European Union commonly develop their products in partnership with us“, continues Echterdiek. “Among them are, predominantly, medical device components and systems as well as pharmaceutical primary packaging. After all, we have established ourselves as a successful one-stop supplier in this field over the past thirty years.” At MEDTEC interested visitors can convince themselves of that know-how.

Spang & Brands GmbH D 61381 Friedrichsdorf

## Premiere of the Freeformer in Asia

# Arburg at the Chinaplas



- **Complete product range:** production of plastic parts, from one-off items to large volumes
- **Injection moulding highlights:** electric and hybrid Allrounders for medical and packaging technology applications
- **Additive manufacturing:** Freeformer available in Asia from the start of the Chinaplas 2015

From 20 to 23 May, at the Chinaplas 2015 in Guangzhou, Arburg will present high-end injection moulding machines and the Freeformer for additive manufacturing to cover the entire production spectrum from one-off parts to mass-produced items. The company will also present the cost-effective injection moulding of mass-produced items for the medical and packaging industries with two Allrounder exhibits. Two Freeformers will demonstrate the potential of Arburg Plastic Freeforming for the industrial additive manufacturing of functional parts as one-off items or in multi-variant small-volume batches. The Asian sales launch of this innovative system for industrial additive manufacturing will coincide with the start of the trade fair.

## 20th - 23rd May 2015: Chinaplas, Guangzhou (China)

“This year, the Freeformer will be a highlight on our exhibition stand and the Chinaplas will mark the start of sales in Asia. China is a dynamic, prosperous market which holds great potential for Arburg and the time is perfect to present this innovative product at one of the most influential international trade fairs,” says Zhao Tong, Managing Director of the Arburg Organisation in China. He went on to explain that, “The Freeformer is designed for industrial applications and can achieve far more than a simple 3D printer. This new system for additive manufacturing is already much anticipated. Furthermore, we will be demonstrating two complex applications in the injection moulding sector for the medical technology and packaging industry.”

### Freeformer additively processes two components

With two Freeformers, Arburg will demonstrate how fully functional plastic parts can be additively manufactured from standard granulate using the Arburg Plastic Freeforming process based on 3D CAD data, without use of a mould. As with injection moulding, the granulate is first melted in a plasticising cylinder. The second discharge unit can be used for an additional component in order to produce, for example, a part in different colours, with special tactile qualities, or as a hard/soft combination. At the Chinaplas, a Freeformer will combine an elastic standard TPU material with a special supporting material – a first in additive manufacturing. Possible applications include e.g. bellows, hoses, sleeves, or flexible parts for robotic grippers. The supporting structures can subsequently be removed in a water bath.

Last year, the Freeformer received the internationally renowned Red Dot Award

for outstanding industrial design. It thereby takes pride of place next to products from top brands such as Apple, Audi and Adidas.

This pioneering system is not only suitable for the additive manufacturing of one-off parts and small batches. Mass-produced parts can also be customised in conjunction with injection moulding and Industry 4.0 technologies. Arburg demonstrated the process for the first time at the Fakuma 2014 (Germany) using the example of office scissors featuring individualised lettering.

### Packaging industry: Allrounder “Packaging” version

At the Chinaplas 2015, Arburg will present the “Packaging” version of a hybrid Allrounder designed specially for thin-walled applications in the packaging industry. The high-performance injection moulding machine from the Hidrive series offers high productivity and reduced energy consumption. A 2+2-cavity stack mould is used for the IML application. Compared to a conventional 4-cavity mould, stack mould technology permits the use of a smaller machine. The hybrid Allrounder 570 H with a clamping force of 1,800 kN produces four 200 ml margarine tubs in a cycle time of around 3.2 seconds. The automated process is performed by a two-axis robotic system. It inserts two so-called butterfly labels on both the fixed and moving mould platens and removes the finished parts from the central block.

### Medical technology: electric Allrounder

Electric machines are ideal for the production of medical items due to their high precision, speed and low-emission operation. In Guangzhou, an electric Allrounder 470 E with a clamping force of 1,000 kN will demonstrate this by producing refillable syringe barrels made of the innovative material COP (Cyclic Olefin Polymer). COP is transparent and has similar barrier properties to glass, but is almost unbreakable and more

cost-efficient to produce. In a subsequent step, the syringe barrels can be pre-filled, assembled and packaged ready for use. The Multilift Select robotic system from Arburg is used to remove the barrels.

ARBURG GmbH + Co KG  
D 72290 Loßburg



Industrial additive manufacturing: with the Freeformer and Arburg Plastic Freeforming (AKF), functional parts can be produced efficiently from standard granulate, without a mould. (Photo: ARBURG)

With four innovative applications for the automotive, teletronics, medical and packaging industries, ENGEL will again be giving an impressive demonstration of its great industry and system solution expertise at Chinaplas 2015 from 20th to 23rd May in Guangzhou, China. On board: The entire ENGEL robot product range; underlining the fact that automation is becoming increasingly important in Asia. The new ENGEL e-pic pick-and-place robot is celebrating its first outing in Asia at Chinaplas 2015.



## ENGEL at Chinaplas 2015

**20th - 23rd May 2015: Chinaplas, Guangzhou (China)**

„Quality requirements in China are continuing to rise,“ as Gero Willmeroth, Sales and Service President at ENGEL Machinery (Shanghai) says in the run-up to Chinaplas. „The biggest challenge is reconciling increasing quality requirements with maximum efficiency and minimum unit cost.“ The key to this is tailored machine concepts, process integration and automation. In project business, in particular, it is important to not just be familiar with the requirements of the country markets, but also to understand the individual target industries. With its five business units, Automotive, Teletronics, Technical Moulding, Medical and Packaging, ENGEL is perfectly geared for this. Industry experts at ENGEL's headquarters in Schwertberg, Austria, cooperate closely with the subsidiaries, bundling know-how from global projects and defining important research and development focuses with their experience.

### ENGEL e-motion TL – making precision economical

The latest machine innovation, the all-electric and tie-bar-less ENGEL e-motion TL, was designed specifically for manufacturing small precision parts, and premium optical components in the electronics industry. The objective here is to combine the highest levels of precision and productivity with maximum energy efficiency and an extremely compact machine design. In this market segment, all-electric machines are the standard. To offer highly compact manufacturing cells here, ENGEL combines all-electric drive technology with a tie-bar-less clamping unit in its ENGEL e-motion TL small-size machine.

ENGEL will be using an ENGEL e motion 50/30 TL injection moulding machine with 300 kN clamping force at its trade fair stand to produce 60x board-to-board plug-in connectors in a 16-cavity mould. The very tight pin spacing of just 0.5 mm defines the required level of precision in this application. The machine's most important performance characteristics are an injection pressure of 3200 bar, an injection speed of 800 mm/s and acceleration of more than 40 m/s<sup>2</sup>. At the same time, the high cavity count boosts productivity. Moulds with 4 to 8 cavities have generally been used in the production of FFC/FP connectors up to now.

### Tie-bar-less ENGEL victory boosts productivity-to-floor-space ratio

Tie-bar-less injection moulding machines allow for extremely compact production cells, facilitate mould changing and support efficient automation. In its medical exhibition area, ENGEL will be demonstrating how these benefits can also be achieved in production in other industries featuring a hydraulic ENGEL victory tech tie-bar-less machine.

As mould mounting platens on a tie-bar-less clamping unit can be used fully, right up to the edge of the platen, large and bulky moulds fit on relatively small machines. This means that in many cases a smaller machine can be used for the same mould size than compared to a machine with tie bars. The efficiency potential is particularly large in manufacturing complex components, the use of multi-cavity



The all-electric and tie-bar-less ENGEL e-motion 30 TL will be put through its paces at Chinaplas 2015 with an application from the electronics industry. The machine will be producing 60x board-to-board plug-in connectors to exacting precision standards. (Picture: ENGEL)

moulds as well as multi-component processes. What these applications have in common is that, although the moulds are large, the required clamping force is low, due to fairly small, projected part surfaces. All over the world, tie-bar-less injection moulding machines represent one of ENGEL's biggest revenue sources. The tie-bar-less ENGEL victory is the top-selling ENGEL machine in China.

Other machines on exhibit at Chinaplas 2015 include an ENGEL duo 2550/600 large-size machine with an integrated ENGEL viper 20 linear robot in the Automotive exhibition area, and an all-electric ENGEL e-cap 440/100 injection moulding machine, which will be producing caps for drinks bottles with a 24-cavity mould at the stand of ENGEL partner HTW Formen- und Fertigungstechnik (Ludesch, Austria) in Hall 9.2 (B61).

### New ENGEL e-pic combines linear motion with a swivel arm

Robots are increasingly becoming fixed components of any injection moulding machine in China. „The production of premium parts depends on reproducible cycle times, which can only be achieved through automation,“ says Gero Willmeroth, citing one of several factors that have caused the percentage of system solutions to continually grow in the order books of ENGEL Machinery (Shanghai). Another factor is that automation, as an integrated part of the process, supports new processes, component functions and product qualities, thus substantially improving the plastics processor's competitiveness.

Chinaplas 2015 takes this trend into account with a special event. ENGEL is involved in the event with a second stand of its own in the „Robot Parade“ in Hall 4.2, directly one floor above the ENGEL main stand. One highlight there is the new ENGEL e-pic small-size robot which will be presented for the first time in Asia. The objective in its product development was to be able to offer a powerful but economical solution for easy part removal, sprue separation and controlled depositing, grid depositing and stacking of small components. The totally new kinematics makes a decisive contribution towards achieving this by combining linear and swivelling movements. The swivel arm moves in the direction of the x-axis, which thus completely disappears or merges with the y-axis to form a single unit. This means that the ENGEL e-pic needs far less space than a linear robot in the direction of both the injection and clamping sides. It can be integrated within the injection moulding machine's safety perimeter, thus keeping the entire production cell compact. Another efficiency fac-

## ENGEL at Chinaplas 2015

tor is the use of weight-optimised parts which keep the accelerated masses low. In this way, the servomotor-driven robot can thus achieve the shortest possible part removal cycles, and it only has low energy requirements. In comparison with linear robots of the same size, the ENGEL e-pic only needs half the amount of energy or even less.

Equipped with its own control unit, the ENGEL e-pic robot is not exclusively designed for deployment on ENGEL injection moulding machines, but also for third-party machines without needing any machine-specific customisation. In combination with an ENGEL injection moulding machine, the robot can be integrated with the CC300 machine control unit. The robot and machine then access a shared database, thus enhancing process reliability and operator convenience, while achieving efficiency optimisations in production sequences. The control unit converts the rotary motion of the swivel arm into a linear movement. Users who are used to working with a linear robot do not need to learn new skills.

In addition to the ENGEL e-pic, an ENGEL viper linear robot and an ENGEL easix multi-axis robot will also be taking part in the Robot Parade. With its three robot designs, ENGEL offers an efficient solution for a wide variety of handling tasks. On top of this, ENGEL's automation range includes peripheral components such as conveyer

belts and tailored automation solutions.

To be able to develop tailored automation solutions in China, too, ENGEL has established a team of automation specialists locally in the past few years. „We will again be increasing staff levels at our Automation Center in Shanghai this year,“ says Willmeroth.

ENGEL has developed and built its own robots since 1980, and is the world's leading supplier of injection moulding process automation today.

### Best-in-class on-site service throughout the product lifecycle

As technology advances, this has also led to increased demand for maintenance services in China. This explains why ENGEL is currently expanding both its local service network and training offerings. „We see a growing need for information and training in China, particularly in the area of processing technologies,“ says Gero Willmeroth. „It is important to us to support our customers in the best possible way throughout the entire service life of the injection moulding machine, robot and system solution. This is the added value that ENGEL offers its customers worldwide.“

ENGEL AUSTRIA GmbH  
AT 4311 Schwertberg

## Versatility, Upgradability, and Faster Workflow with the Leica DMI8 Platform

# Leica Microsystems Launches Inverted Microscope for Industrial Applications

Leica Microsystems introduces the modular Leica DMI8 inverted microscope platform for industrial applications. Inverted microscopes are used for metallography, quality assurance in medical device or microelectronics manufacturing, a wide range of inspection tasks in the automotive and aviation industries as well as materials science. The Leica DMI8 makes it possible for users to configure a basic microscope system now, and upgrade later as needs and applications change. In addition, users can speed up their workflow, because working with an inverted microscope makes sample placement and change between samples faster than in upright microscopy. They can also image large and heavy samples more easily. Additionally, the Leica Application Suite (LAS) software guides novice and expert users through the analysis step by step.

„The Leica DMI8 offers our industrial customers opportunities to speed up workflow,“ explains Kay Scheffler, Leica Microsystems Product Manager. „Inverted microscopes are increasingly used for industrial applications because of the efficiency they add to a workflow: easy sample changeover, less steps required to prepare

and image a sample, and less training time. The modularity and excellent optical quality of the Leica DMI8 enables users to analyze samples with precision and accuracy, while leaving the option to upgrade open.”

The microscope's optics are located below the stage, which offers the advantage of accommodating large sample sizes. The stage carries up to 30 kg in weight and sample height is not restricted. Even very large samples can be swapped and imaged in fewer steps than an upright microscope would require for the same task. Once a sample is focused on the stage, it will remain in focus throughout all different magnifications and also while samples of the same nature are imaged.

Leica Microsystems' exclusive macro objective for the Leica DMI8 offer a field of view of 35 mm. This is four times more than a standard objective. To see even more details of the sample surface in high contrast, users can also use the new Ultra Contrast 3D Illumination, another Leica Microsystems exclusive technology.

Sample preparation for the inverted microscope is less time-consuming as compared to upright microscopes. Cutting or em-



The Leica DMI8 can be equipped with a macro objective exclusively offered by Leica Microsystems. Users can get up to four times more field of view diameter as compared to conventional objectives.

bedding a sample is not necessary, and only one side of the sample needs to be prepared. Users can save time and increase sample throughput, making work more efficient.

With the Leica DMI8, the risk of the microscope's objective colliding with a sample is also diminished. The sample is protected, because the objectives are positioned below the stage, and because a function defines the upper limit of the nosepiece.

Leica Microsystems GmbH D 35578 Wetzlar



MULTIVAC at Medtec 2015 in Stuttgart

# Pack medical items flexibly and reliably



From 21 to 23 April 2015 at Medtec in Stuttgart, MULTIVAC will be presenting thermoforming packaging machines, traysealers, special chamber machines and labellers for packing small to medium-sized batches. All the models, which will be exhibited in the "Medical Packaging" theme pavilion on Stand 7F10, are characterised by their high level of precision and flexibility.

**21st - 23rd April 2015:  
Medtec Europe, Stuttgart (D)**

The entry-level model of thermoforming packaging machine that will be on show is designed for small batches, and it can be used for running both flexible and rigid films. It is ideally suited to packing sterile medical products and cosmetic items. This compact model is aimed at companies, which want to embark on automatic thermoforming packaging or run small volumes. The second thermoforming packaging machine is designed to produce high-value packs in the small to medium-sized output range. A quick-change system for the forming and sealing dies makes conversion to other pack formats very easy, and the optimised lifting units ensure that there is a consistently high and reproducible pack quality. Thanks to the various equipment options available, this machine can be adapted to individual requirements.

Both machine models can produce packs with modified atmosphere and controlled residual oxygen content, as well as being able to run a wide range of packaging materials.

For tray packaging requirements, MULTIVAC will be presenting the T 260 tray-sealer, which is a packaging system that has been developed for the specific demands of the medical sector and pharmaceutical industry. It supports GMP-compliant packaging especially with regard to packaging quality, process reliability and cleanroom compatibility. In order to achieve consistent pack quality, the T 260 is equipped with a specially designed sealing die, which ensures that controlled sealing pressure and precise temperature distribution are maintained.

Temperature-controlled sealing bars also ensure that reproducible seal quality is achieved on the C 200 TC and C 300 TC special chamber machines (TC=thermo controlled). Both models can be calibrated and validated, and they meet all the legal requirements

as well as the GMP, GAMP5 and ISO guidelines. The two cleanroom-compatible chamber machines are also suitable for a wide range of pouch materials, and they can produce packs under vacuum or modified atmosphere (MAP) with controlled residual oxygen content.

The LD 100 label dispenser can be equipped with various printing systems, such as for example thermal transfer, inkjet or hot foil printers. Since the labelling units are constructed in a modular way, they can easily be adapted to different labelling tasks. The labeller is characterised by its high level of transport accuracy and its small tolerances with label positioning. Thanks to the integration of camera systems, it can be ensured that only those labels are applied, which meet the required standards.

MULTIVAC Sepp Haggenmüller GmbH & Co. KG  
D 87787 Wolfertschwenden



LD 100



Einstiegsmodell TZ



C 200 TC Chamber Machine



R145 Clean Design with MR296 TI

**Rencontre professionnelle alliant le cœur et la raison**

# BrauBeviale 2015 : bienvenue « à la maison »



- Culture brassicole créative et spiritueux haut de gamme réunis  
- Na sdorowje ! - Nouveau : Beviale Moscow

Grande joie anticipée ! Après un début remarquable du nouveau cycle du BrauBeviale – 1 128 exposants et 37 200 visiteurs en 2014 – les professionnels européens du secteur des boissons comptent déjà les jours qui les séparent de leur prochaine rencontre à Nuremberg. Du 10 au 12 novembre, tout tournera de nouveau autour de la chaîne des processus de fabrication des boissons dans le cadre de ce salon des biens d'équipement qui est l'événement le plus important de ce genre cette année pour l'industrie des boissons. Des matières premières de qualité, des technologies performantes, des solutions logistiques efficaces et des idées de marketing pétillantes : c'est ce qui compte pour tous ceux qui prendront place à cette traditionnelle « table des habitués » de la branche.



Andrea Kalrait, NürnbergMesse

Le fait que le BrauBeviale n'est toutefois pas uniquement consacré au jus d'orge mais au plaisir de savourer des boissons d'une manière générale, on pourra y découvrir en 2015, en plus de la culture brassicole créative, tout ce qui a trait aux spiritueux haut de gamme et au vin : conférences, présentations et dégustations spéciales. A cet effet, le bar de dégustation organisé en coopération avec Doemens sera encore développé. Les visiteurs du salon pourront même relever le défi d'une dégustation d'eau.

L'European Beer Star Award qui est intégré au salon BrauBeviale depuis 2004 continue à booster le thème d'actualité. Il a été lancé en commun par l'Association Private Brauereien Bayern (regroupant les Brasseries privées de Bavière) qui est le promoteur du salon et par la fédération allemande et la fédération européenne et fait entre-temps partie des plus grands concours brassicoles internationaux. En 2014, un jury sévère a sélectionné les vainqueurs parmi plus de 1 600 bières artisanales venant du monde entier. Perpétuant une belle tradition, les visiteurs élisent le premier jour du salon leur bière favorite parmi celles qui ont remporté une médaille d'or : le Consumers'Favourite dans les catégories or, argent et bronze.

L'European MicroBrew Symposium sera de nouveau centré en 2015 sur les marchés et tendances dans le secteur brassicole. Jouissant d'une grande popularité, ce séminaire qui s'adresse aux directeurs, propriétaires, responsables techniques et maîtres brasseurs des microbrasseries et brasseries de restaurants européennes ainsi qu'aux représentants de l'industrie de sous-traitance s'est établi et aura lieu comme d'habitude la veille du salon. Il est organisé en commun par la NürnbergMesse et le Versuchs- und Lehranstalt für Brauerei (en abrégé VLB – institut de recherche et de formation aux métiers de la brasserie) de Berlin. La conférence est tenue en anglais.

La nouvelle plateforme de communica-

## 10th - 12 Nov. 2015: BrauBeviale, Nürnberg (D)

Never change a winning team. Ceci pourrait être la devise de cette année. « L'an passé, le BrauBeviale s'est remarquablement bien passé pour tous » comme l'explique avec plaisir Andrea Kalrait, chef de projet. Et elle promet : « Notre nouveau concept a fait ses preuves. C'est pourquoi nous le gardons naturellement. Nous l'ajusterons encore un peu par-ci par-là afin de l'optimiser pour tous ! » L'optimisme qui régnait dans les halls reflétait une branche innovante et créative qui est toujours en mouvement et cherche des solutions individuelles concrètes. Les décideurs se rencontrent ici et profitent de cette plateforme pour dialoguer et échanger des informations avec leurs clients et des intéressés.

### Les exposants : ils couvrent toute la chaîne des processus de l'industrie des boissons

En 2014, les entreprises exposantes appartenaient à 47 nations, en particulier l'Allemagne (plus de 600), l'Italie, la Grande-Bretagne, la République tchèque, les Pays-Bas, l'Autriche, la Belgique et la Suisse. PME et multinationales, leaders du marché mondial et nouveaux venus – tous profitent de ce salon concentré sur trois jours pour présenter dans un cadre idéal leurs solutions couvrant toute la chaîne des processus de l'industrie des boissons : des matières premières aux idées de marketing en passant par les technologies et la logistique.

Et cela a été une réussite en 2014 : 93 % des exposants étaient satisfaits de leur participation au salon comme l'ont montré les résultats d'une enquête menée par un institut indépendant. « La table des habitués de la branche » – une caractéristique que l'on attribue volontiers au BrauBeviale. Et cela à

juste titre car c'est là que la branche se rencontre : 96 % des exposants ont pu contacter les principaux groupes qu'ils ciblaient et un nombre presque tout aussi élevé d'entre eux, à savoir 94 % ont noué de nouvelles relations d'affaires.

### Jeunes entreprises innovantes attention : subvention accordée par le BMWi

Les jeunes entreprises proposant des produits ou services innovants qui souhaitent se présenter pour la première fois au salon peuvent bénéficier dans certaines conditions d'une subvention du Ministère fédéral de l'Economie et de l'Energie (BmWi). L'an dernier, 17 jeunes entreprises ont été sponsorisées pour leur participation au salon. En 2015, la participation sera de nouveau subventionnée jusqu'à 7 500 euros ou les coûts seront pris en charge jusqu'à 70 %. Et les conditions sont les suivantes : les entreprises doivent appartenir à l'un des champs thématiques de l'industrie des boissons : matières premières, fabricants de boissons, informatique, commercialisation et équipements gastronomiques étaient les secteurs essentiels l'an dernier. L'entreprise doit avoir son siège et exercer son activité commerciale en Allemagne. Elle ne doit pas exister depuis dix ans et elle doit répondre à la définition d'une petite entreprise telle qu'elle est fixée par l'UE : moins de 50 employés et un chiffre d'affaires inférieur à 10 millions d'euros. Pour obtenir des informations détaillées sur ce stand collectif subventionné, les intéressés pourront s'adresser à la Nürnbergmesse : Bettina Wild, [bettina.wild@nuernbergmesse.de](mailto:bettina.wild@nuernbergmesse.de), tél. +49 (0)911.86 06-81 78 ou sur le site [braubeviale.de/application](http://braubeviale.de/application).

### Les événements phares : culture brassicole créative et spiritueux haut de gamme réunis

Saveurs inédites – en 2014, le thème d'actualité qui avait pour devise « Créativité dans la culture brassicole » a déjà tapé dans

## BrauBeviale 2015

tion Forum BrauBeviale qui se tiendra en plein cœur du salon offrira de nouveau cette année un cadre adéquat pour des conférences de haut niveau, des workshops et des débats. En 2014, plus de 3 000 personnes ont pris place sur les bancs verts dans une atmosphère conviviale pour transmettre eux-mêmes ou pour approfondir leur savoir sur toute la gamme du BrauBeviale et sur les tendances dans le secteur des boissons.

PET@BrauBeviale, le concept PETnology tenant compte des besoins du marché a également fait ses preuves. Dans le cadre de PETarena - connecting compETence, les entreprises présentent leur vaste éventail de produits en PET et de services qui s'y rapportent. Les PME et les grands consortiums y trouvent des solutions intéressantes tout au long de la chaîne de valeur du PET. Le congrès international PETnology Europe qui a lieu les deux jours précédant le salon est le coup d'envoi de la PET PASSION WEEK.

Et pour ceux qui n'arrivent pas à venir au Parc des Expositions ou qui n'en ont pas encore assez le soir : en ville, les personnes intéressées peuvent s'adonner à un « plaisir de boire » inédit. Le parcours de découverte des bières « BierErlebnis Nürnberg » qui a fait ses débuts l'an dernier repartira pour un tour cette année. De nombreux restaurants, bistrotts et cafés de Nuremberg proposant des bières de caractère ou des bières spéciales accompagnées d'une description y participeront.

## Les visiteurs : très qualifiés et internationaux

L'an dernier, des visiteurs issus de 128 pays étaient venus à cette rencontre de la branche. Les plus de 8 100 visiteurs internationaux étaient essentiellement originaires de la République tchèque, d'Italie, de Suisse, d'Autriche et de Russie. Les exposants ont fait l'éloge de la qualité du visitorat : 87 % des visiteurs étaient des décideurs ou participent aux décisions d'achats et approvisionnements dans leur entreprise. En 2015, on s'attend de nouveau à accueillir au BrauBeviale environ 37 000 visiteurs - non seulement des brasseurs mais aussi des spécialistes issus des secteurs de la construction de machines et équipements, de l'industrie de l'emballage, des filières des boissons rafraîchissantes, jus, eaux minérales, vins et produits laitiers ainsi que des malteries, du commerce et de la restauration.

Le nouveau concept du salon, l'échange pragmatique entre pairs et les conférences et entretiens inspirants offrent un cadre idéal pour tout ce qui intéresse les visiteurs du salon. Ceci est mis en évidence par les résultats d'un sondage mené à l'occasion du BrauBeviale 2014. Presque tous les visiteurs (99 %) étaient satisfaits de la gamme proposée au salon. Ils s'intéressaient essentiellement aux technologies de fabrication, de remplissage et d'emballage des boissons, suivies des matières premières, de la logistique et des idées de marketing. 98 % d'entre eux étaient satisfaits des possibilités de s'informer et de nouer des contacts.

## Beviale Moscow : Global solutions. Local success.

Le marché russe désire avidement un salon des biens d'équipement consacré à l'industrie des boissons. La « mère » BrauBeviale est donc heureuse de présenter pour la première fois au public en octobre son « enfant » russe, le Beviale Moscow, et de lui communiquer toute son expérience maternelle. Le concept réussi du salon est donc adapté au marché russe et à ses besoins. Avec le lancement du Beviale Moscow, la NürnbergMesse réagit à l'évolution actuelle sur le marché des boissons mais aussi aux exigences des entreprises exposantes. En effet, notamment les entreprises allemandes et tout particulièrement bavaroises, concentrent actuellement leur attention sur le marché d'Europe de l'Est. Contrairement aux nations industrielles d'Europe de l'Ouest dont les marchés sont très bien approvisionnés, la consommation de boissons augmentera de 1,5 % par an en Europe de l'Est selon les experts (Euromonitor août 2014). Malgré la situation politique actuelle, l'expansion sur le marché des salons en Russie est un pas décisif du point de vue des CEO du NürnbergMesse Group, Dr. Roland Fleck et Peter Ottmann : « La Russie qui fait partie des BRICS reste un marché intéressant qui nous ouvre des perspectives de croissance à moyen et long terme. C'est pourquoi nous voulons nous positionner avec succès sur ce marché.

NürnbergMesse GmbH D 90471 Nürnberg

## BIOTECHNICA and LABVOLUTION 2015 (Tues. 6 – Thurs. 8 October)

# BIOTECHNICA, LABVOLUTION and ELA: Strong trio in October



**06th - 08th Oct. 2015:  
BIOTECHNICA, LABVOLUTION and ELA, Hannover (D)**

The strategic decision made by Deutsche Messe AG to launch the new trade fair LABVOLUTION alongside the established BIOTECHNICA has been well received by the market. From 6 to 8 October this year, Hannover will be the place where industry meets science in the fields of laboratory equipment, biotechnology and life sciences. Together with the debut of the new concept, which will see the two trade fairs take place in the same venue and covered by a single entrance ticket, Deutsche Messe AG has attracted the successful European Lab Automation (ELA) conference and exhibition to Hannover. As well as enhancing LABVOLUTION, ELA also has close links to BIOTECHNICA thanks to its conference track on personalized medicine.

"We're hearing lots of positive feedback in the discussions we're currently having in the exhibitor acquisition phase," says Bernd Heinold, Head of Department, BIOTECHNICA at Deutsche Messe

AG. "Biotechnology and lab equipment are two fields with a host of synergies." In the past, laboratory equipment had already played a key role for life sciences at BIOTECHNICA. The LABVOLUTION format will now enable sectors to be addressed that deal with lab equipment beyond the life sciences. "We'll have a much greater variety of sectors and applications in October," says Jürgen Fürstenberg-Brock, Head of Department, LABVOLUTION. "Chemistry, pharmaceuticals, environment, quality control and food will be just a few of the sectors at the trade fair." A number of key players in relevant sectors have already registered as exhibitors, including Analytik Jena, Eppendorf, Merck Millipore, Mettler Toledo, Nikon, Olympus and Qiagen.

## BIOTECHNICA:

The name BIOTECHNICA has been associated with new business leads and networking in the fields of biotechnology and life sciences in Germany and Europe for 30 years. Industry and science alike use the forum to find products, technologies and opportunities for co-

**BIOTECHNICA, LABVOLUTION and ELA: Strong trio in October**

operation. BIOTECHNICA is the only trade fair to cover the entire red, white and green biotechnology value chain – from basic research to the finished product. Featuring marketplaces for bioeconomy and personalized medicine technologies, BIOTECHNICA 2015 will focus on the sector's overall significance for society, key issues and innovative strength. The range covered by BIOTECHNICA includes the entire biotechnological process chain: process engineering, analytics and sensor technology, bioinformatics, biotechnological applications in industry, pharmaceuticals, medicine and agriculture, and biotech services such as financing or consulting.

**LABVOLUTION:**

LABVOLUTION presents the entire world of lab equipment for laboratories focussing on research, analysis, production and training. The new trade fair covers the whole range of lab equipment products and services for a variety of target markets, including chemistry, pharmaceuticals, biotechnology, synthetic materials, material development, cosmetics, medical and environmental technology and the food industry, and shows how laboratories are an integral part of the entire value chain. In addition to its focus on generating new business leads and networking, LABVOLUTION will also serve as a platform at which the latest laboratory-related trends and issues of future relevance can be discussed. In this regard, one of the highlights of the trade fair's premiere will be the SmartLAB – an intelligent prototype

laboratory of the future. Overall, the range of topics covered by LABVOLUTION will include lab equipment and infrastructure, analytics, commodities and consumables, reagents and chemicals, applications and processes, and specialized services.

**European Lab Automation (ELA):**

The ELA conference and trade fair is Europe's largest event dedicated to automation in the life sciences field. ELA is staged by the British organizer SELECTBIO. ELA has been held annually since 2011, with Hamburg having hosted the event three times and Barcelona being the most recent venue. In Hannover, the ELA exhibition will be part of LABVOLUTION for all three days of the event. Conference participants will meet in the Convention Center, which is directly adjacent to the exhibition hall, on 7 and 8 October. ELA incorporates three conferences: Lab Automation and Robotics, Genome Engineering and Personalized Medicine. Lab Automation and Robotics will showcase preparation techniques for extracted cell material and human tissue samples. The Genome Engineering conference track will focus on both new and established technologies and their discovery, development and application in various organisms. Most notably, applications for CRISPR/Cas9 in therapeutics will be explored. The conference will be completed by Personalized Medicine, which will cover emerging and established laboratory-developed tests and provide insights into the changing legislation and funding landscape.

Deutsche Messe AG D 30521 Hannover

**CONTAMINATION CONTROL**

**ECOLAB CONTAMINATION CONTROL**  
Brunel Way, Baglan Energy Park, Neath SA11 2GA UK  
+44 2920 854 395 (Export) [www.ecolabcc.com](http://www.ecolabcc.com)

© 2015 Ecolab. All rights reserved. 6995/01.15

# By The Book

Sie können sich darauf verlassen, dass Ecolab kontinuierlich die aktuellsten, branchenspezifischen Vorschriften im Auge behält, damit unsere Produkte und Verfahren stets die aktuellen Regularien erfüllen.

UM HERAUSZUFINDEN, WIE WIR IHNEN BEI DER KONTAMINATIONS-KONTROLLE IHRER ANLAGE HELFEN KÖNNEN, KONTAKTIEREN SIE IHREN EXPERTEN VON ECOLAB PER E-MAIL UNTER [INFOCC@ECOLAB.COM](mailto:INFOCC@ECOLAB.COM) ODER TELEFONISCH UNTER +44 2920 854 395

**ECOLAB**<sup>®</sup>

Everywhere It Matters.<sup>™</sup>

# NürnbergMesse launching Beviale Moscow in 2015



- Trade fair for beverage technology expanding NürnbergMesse's business operations to Eastern Europe
- New event reinforces international beverage technology cluster
- First "Beviale Moscow" in October 2015

In staging Beviale Moscow, NürnbergMesse is expanding its international portfolio of events in the beverage technology sector and strengthening its presence in the BRIC countries. The new offshoot of BrauBeviale in Nuremberg, the world's most important trade fair for investment goods in the beverages industry this year, will be held for the first time in October 2015 in Moscow. In the view of NürnbergMesse Group CEOs, Dr. Roland Fleck and Peter Ottmann, the expansion on the Russian trade fair market is an important step despite the current political situation: "As one of the BRIC countries, Russia continues to be an interesting market opening up growth opportunities for us in the medium and long term."

## October 2015: Beviale Moscow 2015, Moskow (Russia)

With the introduction of Beviale Moscow, NürnbergMesse is responding to current developments on the beverages technology market, but also to the requirements of the exhibiting companies. In this connection, especially German and, in particular, Bavarian companies are thus currently focusing increasing intention on the Eastern European market, which according to experts, promises annual growth of 1.5 percent. At the same time, BrauBeviale in Nuremberg with an international exhibitor share of 45 percent as well as a 40-percent share of international visitors, is registering high levels of foreign participation. The participants include many companies from Central and Eastern Europe, especially from the Czech Republic, Poland and Russia. NürnbergMesse has sufficiently proved its recognized competence and expertise in the beverages sector through its staging of BrauBeviale, an event with a history spanning more than 50 years. In 2014, 37,200 trade visitors and 1,133 exhibitors came together at the Nuremberg Exhibition Centre for the years most important investment goods fair for beverages production. The positive mood in the halls reflected an innovative and creative sector, which is always in motion and looking for specific, individual solutions. This is where the decision-makers come together who use the platform for dialogue and a face-to-face exchange.

"With its focus on beverage technology, BrauBeviale is a tried-and-tested trade fair concept which also functions extremely well on an international level. That is why with Beviale Moscow we are responding to positive developments on the Eastern European beverages market in the long term", said Dr. Roland Fleck and Peter Ottmann, CEOs of NürnbergMesse, stating the reason for expanding business to include Russia. "We are of the conviction that the current political crisis with the sanctions and correspondingly worse economic situation will remain a



relatively short-term feature and have trust in a peaceful future in Europe."

### NürnbergMesse banking on growth abroad

The significance of foreign business for NürnbergMesse is constantly increasing: the subsidiaries abroad currently account for an approx. 10-percent share of total turnover generated by the NürnbergMesse Group – with a rising tendency. The share of international customers is also continually growing at the company's home location. In 2014, five percent more foreign exhibitors came to Nuremberg while the increase in visitors from abroad was even as high as eleven percent.

The step taken on the Russian market is a key component of the global growth strategy pursued by NürnbergMesse. Within this framework one of the focal points lies in threshold countries with strong growth rates such as the BRIC nations. Here the trade fair company is already represented in China, India and Brazil with a subsidiary

company in each of them. These companies stage trade fairs with similar thematic focal points to those in Nuremberg thus establishing international thematic clusters. Such a trade fair family will also be formed in future by Beviale Moscow together with BrauBeviale in Nuremberg and the trade fair duo consisting of InterBev Process and InterBev Beverage in the USA. The trade fair cluster with the focal point on beverages technology is directed at a sector which is experiencing strong growth worldwide. In the area of global consumption of packaged beverages, experts are forecasting annual average growth of 3.8 percent by 2018. While the market in the Western European industrial nations is only very slightly increasing at a rate of 0.5 percent per year, regions such as Eastern Europe, Asia/Pacific, Africa and the Middle East are promising strong growth (Euromonitor August 2014).

NürnbergMesse GmbH  
D 90471 Nürnberg



## Evergreens and hot topics



**ACHEMA preparations shift into high gear**

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

The countdown is on: from 15 to 19 June 2015 the doors will open on Achema 2015. Over 3,100 exhibitors have already registered but, as in 2012, the organisers anticipate around 3,800. Moreover, the congress programme is shortly to be released. Already a clear trend is emerging: besides the three focal themes BiobasedWorld, Innovative Process Analytical Technology (PAT) and Industrial Water Management, the hot topics of the world forum of the process industry are energy efficiency, materials and materials testing, and safety technology.

The number of papers submitted for the congress in these areas is gratifyingly high. In terms of exhibition groups, first and foremost there has been the traditionally keen interest in Instrumentation, Control and Automation Techniques, Mechanical Processes, Laboratory and Analytical Techniques, while to meet the unprecedented demand, additional space has already had to be mobilised for Pharmaceutical, Packaging and Storage Techniques.

Thus, Achema reflects the overall trends in its core sectors like machinery and plant engineering and the chemical industry which, despite a turbulent international business environment, are proving to be surprisingly resilient. Particularly on an international level, these sectors are hard-wired for growth: The shale gas bonanza in the USA and the unwaning industrial growth of India and China are reflected in the number of exhibitors. On the other hand, many exhibitors from European countries like Spain

and Great Britain are set to benefit from the opportunity to present themselves to an international audience.

### Cross-sectoral focal themes

The decision not to reserve a separate exhibition area for the three focal themes BiobasedWorld, Process Analytical Technology (PAT) and Industrial Water Management was deliberate. "What distinguishes focal themes is that they impact and shake up the process industry as a whole", explains Dr. Thomas Scheuring, CEO of DECHEMA Ausstellungs-GmbH. "The development of new technologies and solutions thrives on the interplay of different sectors and disciplines." Consequently, the exhibitors involved in these themes can be found in very diverse areas. This holds for industrial water management and similarly for PAT which encompasses not only suppliers of laboratory equipment but also of process control systems.

BiobasedWorld is a striking example of the cross-sectoral nature of the focal themes: in the biobased economy the spectrum ranges from process development to sensors, from suppliers of stainless steel fermenters to processors of biobased packaging materials. For quick orientation, visitors interested in a particular focal topic will find themed publications with tours which will be available either in the Achema app or as a print version in the run-up to Achema. In addition, signs in the halls and on the hall plans will make light work of finding one's way around.

### Another first at Achema – the PRAXIS forums

To promote the exchange of views between users and suppliers, the organisers

have devised a range of new formats: the Achema PRAXISforums, addressing topics such as Single-Use Technologies, Pharmaceutical Production, Components and Equipment, Mixing and Separation, Safety and Plant Control. New developments from practice will be introduced in mini-presentations in the direct vicinity of the exhibition halls concerned. This effectively shortens the distance between lecture areas and exhibition stands, enabling visitors with special interests to plan their visit to optimum advantage.

### Congress programme to follow shortly

The complete Achema congress programme will be published in February. Compared with previous events, this time the programme has been drawn up with a view to streamlining it and avoiding scheduling thematically related sessions in parallel. Participants will be struck by the large number of guest and partner events. "Numerous requests from major national and international partners are a clear indication of Achema's reputation worldwide as a forum for researchers, developers and users", comments Prof. Kurt Wagemann, Executive Director of DECHEMA e.V., the congress organiser. And last but not least, on four of the five days of the event there will be a panel discussion or plenary lecture on key themes like the implications of the shale-gas boom for the bioeconomy, future trends in chemical production, the impact of the energy turnaround, and developments in industrial water use.

DECHEMA Ausstellungs-GmbH  
D 60486 Frankfurt am Main

## New development according to customer requirements

# 2,600 capsules per minute: the new GKF capsule filling machine from Bosch



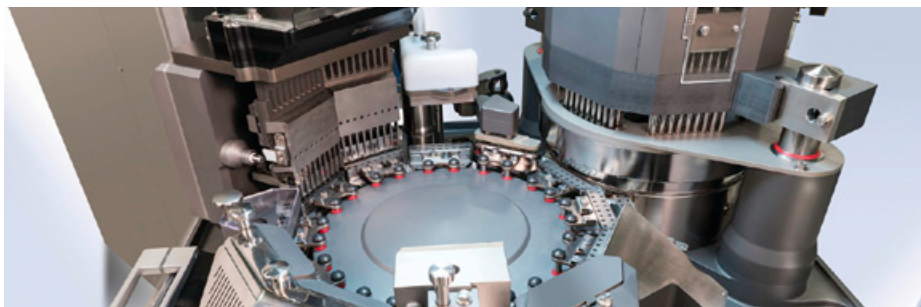
- High output of up to 156,000 capsules per hour
- Fast process and product adaptations thanks to highly flexible machine platform
- User-friendly handling at highest hygiene standards

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

At this year's Achema, Bosch Packaging Technology, a leading supplier of process and packaging technology, launches the new capsule filling machine GKF 2600. This high-performance machine doses powders, pellet, tablets and liquids, as well as combinations precisely and reliably. An output of up to 2,600 capsules per minute can be achieved. "The newly developed GKF 2600 combines proven and new technologies at higher outputs," Karl-Heinz Kappes, product manager at Bosch Packaging Technology, underlines. "The machine is equipped with new filling technologies for different products, an optimized drive concept, significantly enhanced sensor technology for process control, as well as a demand-oriented containment concept." Due to its extended machine platform and very good accessibility, the capsule filling machine can be adapted to fill different products in a very short time. Thanks to these characteristics, add-on modules can also be integrated quickly and easily.

## New development with numerous expansion possibilities

The development of the new capsule filling machine is consistently based on the demands of the pharmaceutical industry and profits from the long-term experience of Bosch in capsule filling operations. "With its standard functions, the GKF 2600 fulfills the industry requirements regarding precise and reliable capsule filling. This includes,



Precise and reliable capsule filling: The standard functions of the capsule filling machine GKF 2600 include, for instance, an automatic anti troubleshooting (ASB) function, as well as user-friendly handling with improved accessibility of the filling stations.

for instance, an automatic anti troubleshooting (ASB) function, as well as user-friendly handling with improved accessibility of the filling stations," says Kappes. The optimized containment with more tightly sealed doors further ensures that the highest hygiene standards are maintained during production.

Apart from the standard functions, numerous options are available, such as the new capsule checkweigher KKE 2600 with enhanced product control. Additionally, the GKF 2600 can be upgraded with a feedback loop, which automatically regulates overfilling and underfilling of capsules via tendency control of the KKE. An inspection unit can further be integrated into the capsule filling machine. It conducts weight and quality inspections with x-ray technology and an x-ray sensor. "Reliable micro-dosing of powders is crucial, especially for highly effective products that require an exact medication," Kappes explains. "The micro-dosing wheel of the GKF 2600 precisely processes products in a filling range of two to 30 milligrams." Depending on customer requirements and

product characteristics, the capsule filling machine can be upgraded for different containment requirements. "The combination of highly developed standard functions and versatile add-on possibilities makes the GKF 2600 a future-proof solution for a broader product spectrum," Kappes concludes.

Bosch's technologies are on display at Achema in Frankfurt/Main, Germany, from June 15 to 19, hall 3.1, booth C71.



**BOSCH**  
Technik fürs Leben

Bosch Packaging Technology  
Stuttgarter Straße 130 D 71332 Waiblingen  
Telefon: +49 711 81158502  
Telefax: +49 711 81158509  
E-Mail: christin.poenisch@bosch.com  
Internet: <http://www.boschpackaging.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).