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Safe clean room monitoring with touch panels



Informing, Warning, Forwarding

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Fig. 1: The clean room panel PUC 44 for monitoring of all relevant measured values of your clean room.

Life-sciences companies must monitor their critical production processes with monitoring systems. This is about recording systems that have a high degree of data safety to record, transfer and save quality-relevant measuring data.

Professional providers of monitoring systems, as well as validation service providers offer systems that are aligned with GAMP 5 for this task. GAMP means Good Automated Manufacturing Practice; GAMP 5 is a quasi-standard that describes the requirements to setup and validation of computer-aided systems in a regulated pharmaceuticals environment as a „guideline“.

One important task of monitoring is making measured data visible in the locations where local decisions depend on them. The following examples are to make this clear:

Example 1: Only if the storage climate data are in an „OK range“ may the staff perform refilling (otherwise, the quality of the product to be refilled may suffer).

Example 2: Only if the clean room has sufficient overpressure may the manlock be opened (otherwise, there would be the danger of contaminated air flowing in).

Example 3: Only if the particle concentration undercuts a threshold may the staff start a mixing process (otherwise, the product may be contaminated).

The current information (measured values and alarm situations) must be provided on site well visibly and unmistakably. At the same time, it must be avoided that the unauthorised user can change the monitoring system. Not least, the relevant measured values and alarm situations are not only to be displayed, but also forwarded to the superordinate system.

Measuring technology and clean room specialist halstrup-walcher now has put the perfect solution on the market for these requirements. Specifically, this is the multi-channel process panel PUC 44, which has a touch panel in the stainless steel frame. Several trans-

Informieren, Warnen, Weiterleiten

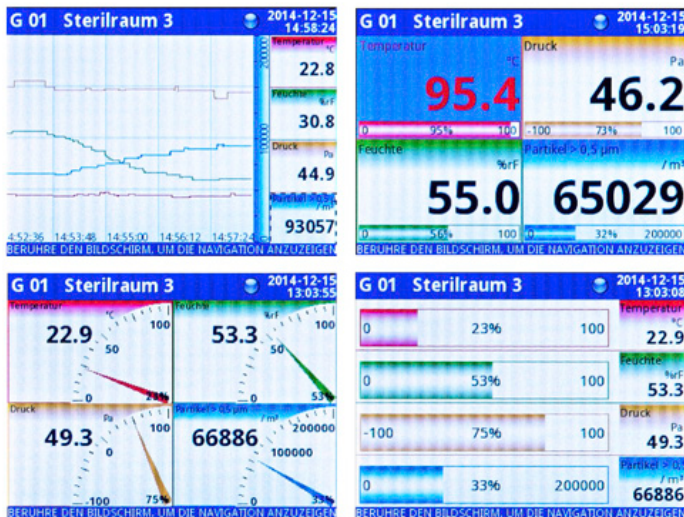


Fig. 2: Always keep the measured values well in sight – with the four PUC 44 views that can be selected via touch panel.

mitters can be connected and supervised, both on site with the help of the display, and centrally in the monitoring system or BMS thanks to the integrated bus connection.

The clean room panel PUC 44 can (if desired) monitor and display more than just the classic climate data (pressure, temperature, moisture). Rather, it is possible to connect one to four analogue values per device. This may be, e.g., an oxygen concentration, a compressed air flow rate or a particle concentration – in the different processes, many different sensors, after all, be of central importance.

On the other hand, the presentation of measured values does not have to be limited to alphanumeric information (value + unit). Where desired, the PUC 44 may also be parameterised with switchable views so that, e.g., pointer charts, bar charts and even curves (display of value development during the last minutes, hours or days) is possible.

In case of alarm, it must be shown at first glance what a measured value looks like. In the pharmaceuticals environment, alarms in the sense of a traffic light function have become established for this:

- If the signal of a sensor is in the forbidden range (below the alarm „LoLo“ or above the alarm „HiHi“), a background colour that can be chosen by the customer (e.g. red) will be displayed.
- For a warning, due to the sensor signal threatening to run out of the permitted range (i.e. signals below „Lo“ or above „Hi“), a background colour that can be chosen by the customer will be displayed (e.g. yellow).



Fig. 3: The PUC 44-2 shows the measured data of up to four connectable measuring inputs well-structured and can be operated via a touch panel with intuitive menu navigation.

- If the sensor value is OK, the background colour is not noticeable. A small bar chart in addition to the alphanumeric value shows how many percent of the defined measured range are currently utilised.

At the same time, it is often desired that the local staff will be informed of present problems by an acoustic alarm. The viewer is able to switch this warning sound off – confirmation in the monitoring system must, however, be reserved to the monitoring officer, who can solve the problem and at the same time is obliged to comment the event in the audit trail of the system. There deliberately is no confirmation option for the local user.

The transmission to the superordinate system (monitoring system or building management system) takes place via the integrated Modbus coupling. A BACnet coupling is already being prepared. In this respect, the clean room panel PUC 44 has the function of a gateway at the same time; this is an important contribution to low system costs.

Thanks to the GAMP 5-compliant password, the user is kept from any intervention on site apart from the browsing between released value views and deactivation of the acoustic alarm. The plant constructor or monitoring provider, in contrast, will be enabled to adjust each clean room panel PUC 44 to the respective application situation via a comfortable menu.

For best integration into the clean room wall, the clean room panel PUC 44 is delivered with two different stainless steel fronts. Both are installed in the clean room wall thanks to their low construction depth. Alternatively, a standard model (PUC 44-2) and a very high-quality very easy-to-clean model (PUC 44-3) are available. For installation sites outside of the clean room environment and the control cabinet fronts, a simple aluminium front version (PUC 44-3) can be used as well.



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Fig. 4: The PUC 44-3 has been specifically developed for high-end clean room applications. The magnet attachment has given it a smooth, easy-to-clean surface.

RAMPF Production Systems named official system partner of KUKA Roboter GmbH for third year running

Strong partners, strong partnership

For the third year running, RAMPF Production Systems, a leading manufacturer of low-pressure mixing and dispensing systems and renowned automation specialist, has been named official system partner of KUKA Roboter GmbH, one of the world's leading suppliers of robots and automated production plants and solutions.



Ready to continue the successful system partnership (from left to right): Konrad Till, Head of Materials Management at RAMPF Production Systems, Bernd Faller, Managing Director of RAMPF Production Systems, Josef Oberhoffner, Sales Manager General Industry Germany, Branch South/East at KUKA Roboter GmbH, and Bernd Besserer, Regional Manager South at KUKA Roboter GmbH.

“The successful collaboration with KUKA Roboter GmbH reflects the high relevance of robotic solutions in the field of dispensing systems,” says Bernd Faller, Managing Director of RAMPF Production Systems. “The growing demands of our customers correlate with an increase in the automation of their production processes. KUKA’s comprehensive product range helps us to manage even the most complex automation tasks and offer our customers truly holistic systems solutions.”

The sales strategy of KUKA Roboter GmbH is based on the close cooperation with system integrators. The KUKA System Partner program cements successful, long-term cooperative system partnerships with selected companies. This way, KUKA Roboter

GmbH combines its own specialist expertise in the field of robotics with the industry-specific know-how of each system partner.

“Robots are often used for operating discharge devices when dispensing foam gaskets and adhesives,” explains Hartmut Storz, Director of Sales & Marketing at RAMPF Production Systems. Furthermore, additional processes such as plasma activation and assembly operation are being carried out by robots. The required tool change is carried out by standardized systems. “A wide variety of production tasks and differing process requirements with moderately short cycle times are the ideal parameters for robotic assisted manufacturing.”

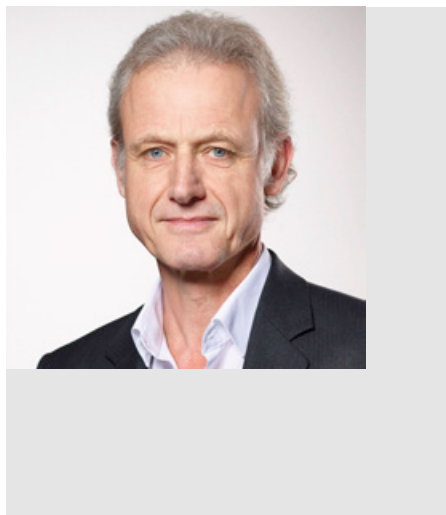
RAMPF Production Systems has also developed dispensing systems which are used



The compact, space-saving DC-RS250 robot dispensing cell incorporates the small robot KUKA KR AGILUS.

for cleanroom production. Care must be taken to ensure that surfaces are easy to clean and that particle emissions are carefully monitored and kept to a minimum. Here, KUKA KR AGILUS CR (Cleanroom) robots perform handling tasks and complex dispensing processes. The robots show a cleanroom suitability for cleanliness class 2 according to DIN EN ISO 14644-1. When operating the cleanroom robot, the maximum permitted limits for particles in a cleanroom of cleanliness class 2 is kept.

RAMPF Holding GmbH & Co. KG
D 72661 Grafenberg



Dear readers, dear subscribers,

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

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

Yours sincerely,
Reinhold Schuster
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.

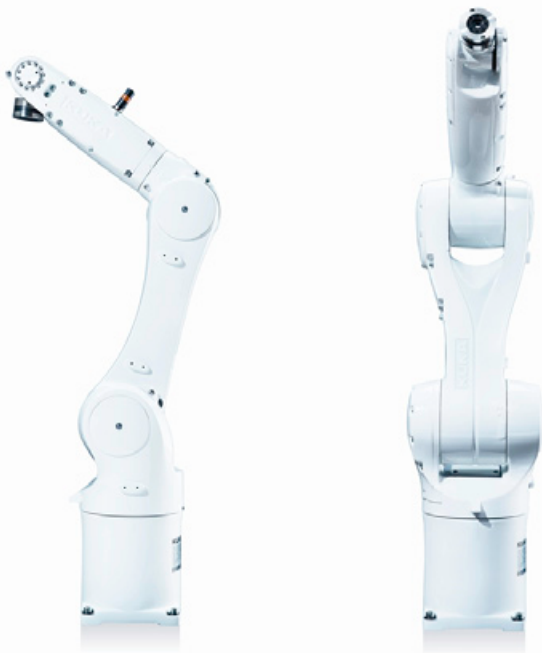


NEW

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

The KUKA KR AGILUS CR is at home in cleanrooms

Small robots redefined – fast, precise and clean



(Photo: KUKA Roboter GmbH)



small robots: speed, extreme agility in confined spaces, short cycle times and maximum precision. KUKA has optimized this all-purpose robot especially for cleanroom requirements. It can now also be used for automation tasks in the electrical industry, plastics industry, as well as the pharmaceutical and medical technology sectors.

Thanks to its internal lines and energy supply systems, the KUKA KR AGILUS CR is an excellent choice for production in technical cleanroom environments. Special surface treatments provide high resistance to aggressive cleaning agents and release almost no particles into the cleanroom. Optimized joints and seals also prevent abrasion from becoming a problem.

The production of highly sensitive parts and components requires compliance with very strict standards for indoor climate control, cleanliness and functionality in the manufacturing process. The KUKA cleanroom robots fit perfectly in these particle-free environments – and with the KR AGILUS CR, the KUKA portfolio now offers a compact, agile and fast robot for low payloads.

As the name suggests, a high value is placed on cleanliness in a cleanroom. It is designed in such a manner that the number of particles brought into or generated in the room can be reduced to a minimum. In addition to air cleanliness, suitable working clothes, special equipment and tools as well as corresponding technology are required to ensure compliance with the specified cleanliness class. With intelligent automation concepts and a unique portfolio of cleanroom robots, KUKA ensures the stable maintainance of these high quality standards.

The KR AGILUS CR has all the proven features of the KR AGILUS range of

Certified cleanroom suitability

KUKA has been collaborating intensively with the Fraunhofer Institute since 2002. At the institute, robots are tested and certified for an air cleanliness class according to ISO 14644-1. The KR6 R900 sixx CR meets the requirements for cleanroom category 2 (ISO 14644-1).

The KR AGILUS CR stands for maximum performance and minimal particle emission. For automation tasks in technical or medical cleanrooms, each of the six-axis small robots is already a convincing solution.

KUKA Roboter GmbH D 86368 Gersthofen

HIGHYAG purchases its corporate building in Kleinmachnow

HIGHYAG continues to grow

HIGHYAG Lasertechnologie GmbH (HIGHYAG) announced on February 10th, 2015, that it purchased its corporate building in Kleinmachnow. Already last year, HIGHYAG acquired the property with a total area of approximately 12,000 square meters from the Europarc GmbH. In addition to the corporate building with parking lots and green areas, the property also includes an area for future expansion. HIGHYAG plans to build new parking lots on this area for HIGHYAGs continuously growing number of employees.

In January 2014 HIGHYAG moved to its new headquarters just outside of Berlin. "The Europarc Dreilinden in Kleinmachnow is our new 'home' since one year now and we feel very comfortable here", says Dr. Robert Kuba, managing director of HIGHYAG. Designed specifically for HIGHYAG, the building offers optimum working conditions for employees.



HIGHYAG Headquarters in Kleinmachnow (Photo: HIGHYAG Lasertechnologie GmbH)

It is configured to easily accommodate increased manufacturing capacity to meet the growing demand. The investments in the technical equipment for the production areas, clean rooms and applications laboratories has resulted in an increase in turnover and an increase in customer satisfaction. The purchase of the building reinforces HIGHYAGs commitment to continued rapid growth.

About HIGHYAG

HIGHYAG Lasertechnologie GmbH (HI-

GHYAG), a subsidiary of II-VI Incorporated, is one of the world's leading suppliers in the laser material processing industry. Its innovative laser processing heads and fibre beam delivery systems are used for laser cutting and welding as well as for brazing in the advanced manufacturing industry. HIGHYAG is represented internationally with headquarters and production located near Berlin and worldwide sales offices.

HIGHYAG Lasertechnologie GmbH
D 14532 Kleinmachnow

The developers at Gerresheimer believe in the principle of 'you can make a good thing better' and are now presenting the results of their work, an improved Duma Twist-Off container called Duma Twist-Off Advanced for solid pharmaceuticals. The improvements extend from more uniform wall thickness, through optimized closure design to compatibility with all other high quality Duma Twist-Off and Duma OneLiner closures.

Gerresheimer presents a substantially increased barrier with the Duma Twist-Off Advanced container

"As a result of our longstanding collaboration with our customers we have been able to integrate their suggestions and requirements for sustainable increased barrier in our containers. We continuously optimize our products, even the proven pharmaceutical packaging products, so that we can deliver added value to our customers and patients," said Niels Düring, Global Senior Vice President Plastic Packaging.

Duma Twist-Off Advanced containers are more stable than their predecessors because the thinner areas have been eliminated and they have a more uniform wall thickness distribution. Their permeation has also been further reduced and their barrier properties improved. The new design is compatible with all other high quality Duma Twist-Off closures, including the Duma OneLiner. Duma Twist-Off Advanced also has a full set of do-



The new Duma Twist-Off Advanced containers with closures are available in sizes 15, 35, 75, 100 and 150 ml.

umentation for product registration.

The new Duma Twist-Off Advanced containers with closures are available in sizes 15, 35, 75, 100 and 150 ml.

The Gerresheimer Duma, Dudek and Triveni branded products include a broad range of containers in HDPE and closures in LDPE & PP for the pharmaceutical market. A wide

choice of solid dosage, closure and security systems makes the range fully adaptable to the individual requirements of the customer. It includes containers with screw caps, snap closures, child-safe and senior-friendly closures.

Gerresheimer AG D 40468 Düsseldorf

Berner International receives German Design Award



The safety cabinet Claire from Berner.

At the Ambiente trade fair in Frankfurt, Germany Berner International received the German Design Award on 13th February 2015. The German Design Award is the international premium prize of the German Design Council. The German Design Council is one of the world's leading centres of expertise on brands and design. The aim is to represent new German designs. Founded in 1953 by decree of the German Federal Parliament at the German Bundestag, it supports the business



The managing partners Malte Schneider (l.) and Thomas Hinrichs (r.) at the German Design Award ceremony.

world in all aspects of design.

The Berner safety cabinet Claire, awarded the premier prize in the category Excellent Product Design, brings together a modern design, maximum safety and efficient work. Prizes will be awarded to top quality products, their manufacturers and designers for pioneering contributions to the German and international design landscape. The goal of the German Design Award provides design enthusiasts with the opportunity to participate.

This year the jury in the category Excellent Product Design - Industry, Materials and Health Care the German company Berner International with the newly developed safety cabinet Claire, which emerged as a winner among many other competitors.

Statement of the jury: „Berner International's Claire safety cabinet was developed specially for use in laboratories with especially high safety requirements. The workbench is highly modern in appearance and provides ultimate safety, intuitive use and low energy consumption. A system for detecting air-flow velocity ensures additional safety. Together with light bands that indicate the operating status, the shield design also provides visual protection, facilitates use and visualises technological progress. Here, an aesthetic common denominator has been made for the highest standard of

safety and efficient work.“ (Statement made by the following jury members: Nicole Huffer, Ruwen Kaminski, Jun.-Prof. Dr.-Ing. Jens Krzywinski.)

Claire also sets new standards in the area of environmental protection. The safety cabinets are important safety relevant laboratory devices 365 days and 24 hours a day in operation electricity costs play a significant role. The power consumption of Claire was lowered from about 500W for standard safety cabinets to 85W. During the lifespan of a safety cabinet this means electricity savings in the range of five figures.



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On January 28, 2015, the topping out ceremony for the new Laser Institute building at the University of Applied Sciences Mittweida took place. The three-storey building will provide 2,800 m² of floor space and house a total of 46 laboratory rooms and 60 laser systems for the various research groups at the institute. It is the final piece in the University of Applied Sciences Mittweida campus jigsaw. pbr Planungsbüro Rohling AG is providing architectural and fire safety planning services for the new building. The building is expected to be handed over to the research institute in 2016. The building has been commissioned by the State of Saxony, represented by property management department, the Staatsbetrieb Sächsisches Immobilien- und Baumanagement. Construction costs are expected to be 21.3 million.

Topping out ceremony for new Laser Institute building at the University of Applied Sciences Mittweida - pbr AG provides architectural and fire safety planning services

Excellent conditions for excellent research

pbr AG has designed a compact structure, of which the colour scheme, height and orientation are intended to resonate with the nearby Centre for Media and Social Work building. Between them, these two buildings mark the northern and southern boundaries of the university grounds. Its modest height helps the new building to fit in perfectly among the heterogeneous surrounding structures and to avoid inappropriately dominating the setting. The facade will feature a curtain wall of traditional local brickwork.

The entrance and foyer will benefit from a distinctive glass facade. The signature feature of the circulation areas and atrium is transparency and generous use of natural light, helping to ensure that they are pleasant spaces in which to dwell. Access between storeys is provided by four stairwells at the corners of the building.

The structure of the building has primarily been determined by functional considerations. The ground floor will house the high rate and nano research groups, which use heavy equipment, exerting forces of between 50 and 100 kN/m² – constructing the upper floors to accommodate such heavy loads whilst preventing vibration would be uneconomical. The clean rooms will also be concentrated on the ground floor. Further laboratory areas are situated on the 1st and 2nd floor. The second floor will also house office and meeting rooms plus building services. The central location of the technical service areas allows short, efficient connection of services and utilities to adjoining operational areas. A key focus during planning was to ensure that the building would be efficient and economical to operate. One factor which helps ensure that this aim is achieved is the compact nature of the structure, which results in an optimum surface area to volume ratio. The building's surface area to gross building volume ratio of 0.3 is significantly lower than that of typical university buildings. The outer walls are constructed of a highly insulating façade with a brick curtain wall. A further benefit of the compact structure is that it minimizes the length of communication routes between operational areas and working groups. This in turn minimizes the volume of cost-intensive circulation areas.

The Laser Institute at the University of Applied Sciences Mittweida is one of the leading laser technology research centres in Germany. For more than 40 years, the institute has specialised in application-oriented research and development in the fields of laser micromachining, pulsed laser deposition, laser macromachining and photonics.

pbr Planungsbüro Rohling AG, an architectural and engineering practice which employs more than 400 staff at ten offices across Germany, provides all major construction planning services. The



Visualisation 1: External view of the Laser Institute building at the University of Applied Sciences Mittweida



Visualisation 2: Foyer

practice's key focus is on planning services for buildings in the education, administration and culture sectors. Projects in the education and research field managed by pbr AG include construction of the new DZNE Magdeburg building, construction of the new Hamm campus for Hamm-Lippstadt University of Applied Sciences and of the building für the Automotive Research Centre Niedersachsen in Braunschweig.

pbr Planungsbüro Rohling AG D 07745 Jena



Figure 1: Cleanroom workspace PILOT 219 (Image: Systec & Solutions GmbH)

A clean environment is particularly important for many areas of industry, science and research. It is not always essential to set up a complete cleanroom. Often the goal is to develop a space-saving, compact workspace. Systec & Solutions has developed the appropriate hardware.

Compact laboratory and cleanroom workstation



With their polished stainless steel housings, the PILOT 217 with 17.3" full HD LCD display and the PILOT 219 with 19" IPS LCD display meet the IP65 protection class and are therefore ideally suited as laboratory and cleanroom workstations. The PILOT can be configured in various ways from the monitor through to the i7 processor.

The entire front consists of a non-reflecting multi-touchscreen made of glass, set flush without edges into the stainless

steel housing. A polyamide film is laminated to the surface of the glass to splinter-proof and protect it. The multi-touchscreen offers 5-finger gesture operation and supports all the usual operating systems, such as Windows, Linux and QNX. Depending on the configuration of the device, the power connection and the relevant ports for connecting additional peripheral devices are located on the back.

Combined with a space-saving pedestal,

the PILOT 217 and the PILOT 219 are ideal solutions for the ergonomic design of restricted space on laboratory and cleanroom tables. Using the attached torque hinge, the inclination angle of the devices can be freely adjusted, thus making them adaptable to each individual user.

They can be operated by multi-touch and the IP65 hygiene glass keyboard with a built-in mouse pad. On request, a separate IP65 wireless mouse (cordless) is available to complement the workstation. The functionality of the keyboard has been tested with cleanroom rubber gloves in different strengths - it can be used in both dry and wet conditions.

Technical data HMI systems und pedestal:

- 17.3" LCD display with full HD resolution
- 19" IPS LCD display with SXGA resolution
- Unbreakable PCT multi-touchscreen with a laminated polyamide coating
- Optionally available with a resistive touchscreen
- Slim design (only 55 mm deep)
- Dimensions of PILOT 217:
445 x 280 x 55 mm (W x H x D)
- Dimensions of PILOT 219:
470 x 400 x 55 mm (W x H x D)
- Available as monitor, ultra-thin client or industrial PC with the very latest processor technology (Intel® Celeron® up to i7, fourth generation)
- IP65 protection class all-round
- Very easy to clean
- Optionally available with a stainless steel pedestal, dimensions: 300 x 275 x 70 mm (W x D x H), including torque hinge

Technical data glass keyboard:

- Glass keyboard with a numeric keypad and touchpad (combined), in a plastic housing
- Table version
- Connection: USB via cable or Bluetooth
- Protection class IP65
- Dimensions: 387 x 22 x 150 mm (WxHxD)
- Dimensions WLAN receiver: 48 x 23 mm
- Weight: 0.67 kg



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Curetis Presents Product Updates at Intensive Care Conference

- Multiple Unyvero product launches planned for 2015
- Clinical trial aimed at US FDA clearance of Unyvero adapted to reflect most recent FDA guideline issued in Q3-2014

Curetis AG, a developer of next-level molecular diagnostic solutions, announced on Feb. 17, 2015, the presentation of its product range at Germany's biggest congress on intensive medicine and intensive care, Symposium Intensivmedizin + Intensivpflege, in Bremen from February 18-20, 2015. Curetis exhibited the Unyvero Solution at booth #N27, hall 4 at Messe & Congress Centrum Bremen. Curetis was also providing an update on its pipeline of new products to be launched in 2015.

By the end of 2014, the installed base of Curetis' Unyvero Solution has grown to more than 60 systems world-wide. Unyvero is a versatile hardware platform for the detection of a broad panel of bacteria, fungi and antibiotic resistances from a single sample in one run. At present, cartridges for pneumonia testing (Unyvero P50) and for implant &

tissue infections (Unyvero i60 ITI) are available in Europe. The company is expecting the European launch of its enhanced and expanded Unyvero P55 Pneumonia application in the spring of 2015.

By mid 2015, Curetis also anticipates data from an updated i60 ITI application Cartridge. Moreover, the company is planning the launch of a comprehensive blood culture panel combining Gram-positive and Gram-negative pathogen markers as well as resistance markers by the end of 2015 in Europe.

The company also announced an update on its US trial of the Unyvero LRT lower respiratory tract infection application. Curetis has adapted its FDA trial design to reflect the new guidelines issued by the FDA for multiplexed infectious diseases tests and will re-initiate prospective sample measurement

once the enhanced and expanded P55 Pneumonia Cartridge is available as LRT-labeled test cartridges for the US FDA trial. Patient sample collection with the updated LRT application based on the P55 assay is expected to start mid-2015.

Curetis has decided to un-blind all data generated in its FDA trial to date and has engaged its network of US trial sites to continue collecting retrospective specimen. Data from the previous LRT study based on the P50 panel will be analyzed and published in a peer-reviewed format.

The new FDA guideline reduces the minimum number of required prospective patient samples to 1,500, limits requirements for prospective samples to only specificity endpoints, allows testing of retrospectively collected patient samples for sensitivity endpoints, and provides clarity on positive and negative control samples. Based on the adapted design and a start of patient sample collection with the new LRT55 application, which is anticipated by mid-2015, Curetis is expecting completion of patient enrolment in the first half of 2016, with subsequent filing with the FDA.

Curetis AG D 71088 Holzgerlingen

Cabka-IPS introduces an all-around closed hygienic pallet optimized for automated conveyor systems

Hygienic i7.1 – the New Hygienic Pallet in Industrial Dimensions

The new hygienic pallet Hygienic i7.1 made by Cabka-IPS is a further development of Hygienic i7, which has become the standard in many industries in Europe. This pallet is ideal for food, meat, and pharmaceutical logistics and for all situations where a perfect combination of mechanical performance and highest hygiene requirements is needed.

No matter whether it is the frame, skids, or upper or lower deck, the Hygienic i7.1 is made exclusively of food-grade HDPE plastic. The continuous smooth surface of the closed pallet prevents dirt from accumulating. There are no joints, slots, grooves, or other cavities whatsoever where mold or bacteria could settle. The special pallet design allows for easy and fast cleaning.

The Hygienic i7.1 also stands out because of the rounded corners it has on all sides and internally on the blocks and skids. The advantages: the risk of damage is reduced to a minimum and the transport in automated conveyor systems is optimized. The new development of the internal rounded corners prevents fork arms from misaligning with the pallet, which interrupts the logistical process, and causes additional costs.



The rounded edges on all sides and internally make the Hygienic i7.1 particularly reliable in automated conveyor systems. (Photo: Cabka-IPS)

CABKA Group GmbH
D 10719 Berlin

The German company PAMAS develops, manufactures and distributes Automatic Particle Counters for fluid contamination control. The PAMAS product range includes measuring instruments for long-term condition monitoring of liquids like hydraulic or lubricating oil and for contamination analysis of particulate matter in water, pharmaceutical suspensions and many other fluids. Designed specifically for stationary online measurement of dark fluids, PAMAS has developed a new particle counter: the PAMAS S50DP. With its integrated dilution system, this online particle counter automatically dilutes dark sample fluids prior to measurement and thus reduces the sample's turbidity level.

New development PAMAS S50DP

Particle counter with integrated dilution system for fluid analysis



With its integrated dilution system, the PAMAS S50DP online particle counter is able to analyse dark fluids as well. The sample's turbidity level is reduced before analysis by adding a programmable amount of solvent online to the raw sample. (Picture: PAMAS)

Fluid cleanliness (e.g. of oil, water or fuel) can be monitored through optical particle counting. An automatic particle counter detects and measures particulate contaminants in the fluid. Optical particle counters work with the help of light. In optical measurement proceedings, the light beams through the liquid. The electromagnetic waves may be deflected or absorbed when meeting the particles in the measuring cell. The light effect on the particles is analysed with the help of a previously calibrated optical electronic hardware. The measuring result provides information on the number of particles per millilitre and on the size of each single particle.

This technique has its limitations. For example: in case of dark fluids, the sensor's laser beam is not able to penetrate the medium. To enable particle counting of dark fluids, the sample fluid's absorption needs to be reduced before analysis. The optical particle counting technique is also difficult to use if the level of contamination greatly exceeds the sensor's maximum particle concentration level, if the fluid contains undissolved additives or if the sample's viscosity is too

high for an accurate measurement. In such cases, sample dilution with solvents helps to achieve reliable measuring results. For batch and bottle sampling, the dilution agent can simply be added manually. However, if operating fluids are analysed online, an online particle counter is directly integrated as a fixed installation into the system (e.g. hydraulic/lubricating oil system or fuel tank). The sample liquid is drawn from the system via a bypass line and analysed directly online during operation.

To enable continuous condition monitoring of difficult fluids such as the above mentioned ones, PAMAS has developed a new online particle counter: The PAMAS S50DP online particle counter has an automatic dilution system that adds a programmable amount of solvent online to the difficult sample. The system's inner structural design ensures that the solvent and sample fluid are thoroughly mixed. This helps to get a good homogeneity of the mixture and hence accurate, repeatable measuring results.

The PAMAS S50DP online particle counter is well suited for the analysis of fuel containing free water: Without prior dilu-

tion, free water in fuel would lead to false measurements. The diluting agent increases water solubility in the sample, so the water drops are no longer detected.

Another application example are highly contaminated liquids. Without prior dilution, the coincidence error quote of such sample fluids would be too high due to particle over concentration.

The PAMAS S50DP is equipped with a wear resistant ceramic piston pump. The pump provides a constant flow rate of 25 ml/min at a pressure range from 0 to 6 bar. With its eight different size channels, the PAMAS S50DP counts particles in eight size classes. The instrument measures the particle sizes $> 4 \mu\text{m(c)}$, $> 6 \mu\text{m(c)}$, $> 10 \mu\text{m(c)}$, $> 14 \mu\text{m(c)}$, $> 21 \mu\text{m(c)}$, $> 25 \mu\text{m(c)}$, $> 38 \mu\text{m(c)}$ and $> 70 \mu\text{m(c)}$. The integrated PAMAS HX particle sensor is calibrated in compliance with the ISO 11171 standard, and it measures sample fluids with a maximum concentration of up to 24,000 particles per millilitre at a coincidence quote of 7.8%.

For data transfer, the user has the choice between digital and analogue interfaces. A RS485 data interface is part of the instrument's standard equipment for digital data transfer free from interference. The optional analogue 4-20 mA channel transmits data to a PLC (Programmable Logic Controller). This interface function makes the PAMAS S50DP an effective instrument for condition monitoring.

To report and analyse measuring results, PAMAS provides two different software tools: The online visualisation software PAMAS POV has been developed for the online visualisation of measuring results and for long-term trend monitoring. The component test software PAMAS PCT helps to monitor parts and roll off cleanliness. With the aid of the software tools, measuring results are reported according to common cleanliness standards (e.g. ISO 4406 or SAE AS 4059). Furthermore, the measuring parameter can be set up individually and adapted to the specific application profile.

At Hanover fair 2015, PAMAS presents its newly developed particle counter PAMAS S50DP, located in Hall 23 at Booth No: A49.

PAMAS Partikelmess- und Analysesysteme GmbH
D 71277 Rutesheim

The new EE150 humidity & temperature transmitter has been optimized specifically for use in the HVAC and building technology sectors and impresses with an outstanding price/performance ratio. The clever housing concept, the compact design and the Ø 6mm probe simplify mounting of the transmitter, which results in minimized installation costs. The IP65/NEMA 4 enclosure provides optimal protection of the electronics and the capacitive E+E humidity sensor element guarantees long-term stable measurement results.

New „Compact Class“ for HVAC and Building Technology

HVAC Humidity & Temperature Transmitter for Duct Mounting



Compact humidity & temperature transmitter for HVAC and building technology from E+E Elektronik. (Photo: E+E Elektronik GmbH)

The EE150 features a particularly installation-friendly design. Thanks to the external mounting holes it is not necessary to open the housing for mounting. This means that the electronics are protected against construction site pollution. For duct mounting the RH/T probe of just 6mm in diameter does not require a hole any larger than a standard T probe. The mounting flange further simplifies installation of the transmitter. The benefits are shorter mounting times and thus minimized installation costs.

The PTFE filter cap protects the sensing head against contamination, ensuring excellent long-term stability. The measured values are issued via two 0-10V or 4-20mA analog outputs. Using an optional configuration kit and the free software, the user can set the output scaling and perform a 1 or 2 point adjustment for humidity and temperature.



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New lab cleanroom furniture range offers multiple benefits



A Trespa step-over bench from Connect 2 Cleanrooms.

A brand new range of chemical-resistant lab furniture has been unveiled by cleanroom specialist Connect 2 Cleanrooms.

The range is built from Trespa Toplab Base – a brand of high pressure laminate plate – giving an attractive appearance and a range of inherent benefits. As well as being chemical-resistant and antistatic, it has low dirt pick-up, is easy to clean and is scratch-resistant, making it ideal for use in a controlled lab environment.

The robust cleanroom furniture can be created bespoke to require-

ments and a core range of sub-assemblies will be kept in stock for a short delivery time. These include a step-over bench, wall mounted shelving and a selection of tables with options including shelving and upstands.

The UK-manufactured products are ideal for use in all Connect 2 Cleanrooms modular cleanrooms including the recently introduced modular pre-engineered version of the FM Approved Puracore® wall and ceiling panel system. No self-assembly is required.

Managing director of Connect 2 Cleanrooms, Joe Govier, explains how the new Trespa range will benefit customers.

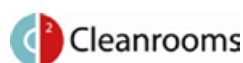
“The Trespa range will broaden our product offering, improving the choice available to customers, with the same convenience and quality which we pride ourselves on,” Joe said.

“We have an internal product development panel which has researched the values of the Trespa Toplab Base material and developed a versatile range of furniture with many benefits for use in a live laboratory and cleanroom environment.

“While we already offer a full range of bespoke and standard stainless steel cleanroom furniture, our new Trespa range offers alternative benefits to those of stainless steel. The Trespa material itself is sturdier and its surface is durable and scratch-resistant.

“Importantly, it has chemical-resistant anti-static properties, without the addition of coatings or additives.”

Both the standard and bespoke product ranges are available to order through cleanroomshop.com. All products have a Trespa Toplab Base surface finish with mild steel powder coated legs.



Connect 2 Cleanrooms
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Vereinigtes Königreich Großbritannien und Nordirland
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The international trade fair for cleanroom technology is expanding the construction and planning product area

Cleanzone 2015: Registration is now open



**27th - 28th October 2015:
Cleanzone, Frankfurt am Main (D)**

Congress's modular concept to be continued

On 27 and 28 October 2015, Cleanzone will be taking place for the fourth time. Providers of cleanroom technology and hygienic engineering have been able to register for the international trade fair since the beginning of February. Ruth Lorenz, Vice President Technology & Production at Messe Frankfurt, sums up expectations for Cleanzone 2015: "With its interdisciplinary and international approach, Cleanzone has firmly established itself in the market. This is also clear from the fact that many companies have already announced their interest in taking part in Cleanzone 2015, and a number have even registered. As a result, we have every expectation that Cleanzone will continue its growth." Since the first event in 2012, the number of exhibitors has climbed every year, reaching 61 companies from nine countries in 2014. Cleanzone 2015 will be taking place in Hall 4.0. Lorenz: "Hall 4.0 is the ideal venue thanks to the proximity of the congress rooms to the exhibition area."

The products and services on offer at the trade fair cover the entire life cycle of

a cleanroom, from design and planning to construction, operation and monitoring. This also includes training and further education programmes, which are increasing in importance as a result of a shortage of specialists. Ruth Lorenz adds that: "For Cleanzone 2015 we will be strengthening the product and service range for the construction and planning of a cleanroom by even more efficiently leveraging the synergies with our leading international trade fairs in the field of architecture and building technology, ISH and Light+Building."

As an interdisciplinary gathering, Cleanzone is aimed at all sectors where production or other work is carried out under controlled conditions, including the pharmaceuticals, food, hospital, medical technology, micro-technology, micro-electronics, semiconductor, photonics and automotive sectors. The number of cleanroom applications continues to increase, something that is also confirmed by Thomas Wollstein, technical staff member at VDI and responsible for cleanroom technology regulations. He explains: "The number of cleanrooms will continue to increase. Many of today's products have only been made possible by cleanroom technology, while other products could not be produced to the quality modern consumers demand without cleanroom technology."

Messe Frankfurt will once again be holding the Cleanzone Congress alongside Cleanzone. The congress programme is compiled by Messe Frankfurt and its content partner ReinraumAkademie in collaboration with a group of distinguished experts. Frank Duvernell, Managing Director of Reinraum-Akademie, explains: "We will definitely be maintaining the division of the congress into basic and advanced modules, as the response to this concept in 2014 was overwhelming." The top themes of the 2015 congress will include the planning, layout and construction of a cleanroom, cleanroom classification and the ongoing operation of cleanrooms. Cleanzone Plaza, located right at the heart of the trade fair, will also be part of the supporting programme.

cleanzone

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Cleanzone 2014: Source - Sandra Gätke / Messe Frankfurt Exhibition GmbH

The supporting programme offers comprehensive information and international networking

Registration figures for the seventh Anuga FoodTec, the international supplier trade fair for the food and beverage industry, from 24 to 27 March 2015 in Cologne, have been outstanding. Alongside countless market leaders from Germany and abroad, many small and medium-sized companies will also be appearing at Anuga FoodTec. In keeping with the motto „One for all - all in one“ Anuga FoodTec will represent the entire production chain, divided into the areas Food Processing, Food Packaging, Food Safety and Services & Solutions. Individual topics, such as suppliers for the meat industry, are showing remarkable growth. As an overarching theme, the broad term „Resource efficiency“ will be emphasized across all areas of the trade fair and also represented within the supporting programme. Almost 1,500 suppliers from around 40 countries and 43,000 trade visitors from around 130 countries are expected at the trade fair.

List of exhibitors to be updated daily online

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



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

The excellent registration figures for the coming trade fair can be seen across all sectors of the fair. The well-known names at Anuga FoodTec 2015 include among others: Air Liquide, Alfa Laval, Alpma, Ashworth, Bilfinger, Bischoff + Klein, Bizerba, Bosch Packaging, Bühler, Carl Zeiss, CFT, CSF, Ecolab, Ecolan, Döhler, DS Smith, Exxon Mobil, Fanuc, Festo, Fomaco, Gardner Denver, GEA, Gerhardt Schubert, Grundfos, Albert Handtmann, Heinen, IMA, Intralox, Ishida, JBT FoodTec, Jokey-Plastik, Kaswasaki Robotics, Kaeser, KHS, Krones, KSB, Linde, Maja, Marcel, Mettler Toledo, Mitsubishi, Multivac, Polyclip, Pöppelmann, Probat, ProXES, Rockwell, SACMI, Siemens, SKF, Sleever, SMI, SPX, Stork Food, Taghleaf, Thermo Fischer, Tipper Tie, Treif, Trepko, Ulma, Vemag, Veripack, Voith, Weber Maschinenbau, Yaskawa und Zepelin.

The list of exhibitors for the 2015 trade fair is posted online and will be updated daily.

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

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

The same applies for the fruit and vegetable processing industry sector, where participation is also strong, which competently

satisfies the demand for different solutions within production processes.

In addition to the traditional focus on processing and packaging, Anuga FoodTec also offers cross-sector solutions for all processing phases and food industries. Under the heading „Services & Solutions“ leading companies from the conveyor technology, inert gases and lubricants sectors, among others, will be appearing at Anuga FoodTec.

Once again Anuga FoodTec will occupy Halls 4 to 10 of the Cologne exhibitions grounds, which corresponds to a gross exhibition space of 121,000 m².

As an overarching theme the term „resource efficiency“ will unite the individual focuses of the exhibition and place the emphasis on one of the most important issues within the food industry: today a conserving and conscious approach to natural resources is one of the fundamental responsibilities of food and beverage production.

Among other things, a half-day conference will be held on this theme on the first day of the trade fair. Here we were able to secure among others the former President of the International Academy of Food Science and Technology (IAFoST), Prof. Dr. Walter E.L. Spiess, Ettlingen, Germany, who will speak on the topic of „Virtual water and the water footprint of food production and processing“. In other presentations, Mrs. Stefanie Hardtmann of Bühler AG, Uzwil, Switzerland, will talk about „EcothermatikTM - Pasta drying with energy efficiency and best pasta quality“ and Dr. Christoph Glasner from Fraunhofer UMSICHT, Oberhausen, Germany, will discuss the topic of „SUSMILK: Re-design of the dairy industry for sustainable milk processing“.

All of the exhibitors will have the opportunity from January 2015 onwards to pre-

sent their ideas, technologies and measures on the theme of resource efficiency via the Anuga FoodTec novelties database and thus inform media representatives and interested visitors about their commitment and concepts. The diversity of the topic as well as different approaches and solutions will thus be brought to light.

In addition to the exhibitor presentations, Anuga FoodTec will provide industry experts from the food production sector with the information they require through a diverse and technically sophisticated supporting programme.

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

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

The Robotic Pack Line will be demonstrated again. The theme in 2015 is an industry 4.0 line as a live demonstration with a dozen processing and packing stations. A Veggie Pack, with its various raw food products, will be put together, inspected, packed, labelled and collated into larger packages.

For the second time, several internatio-

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

nal teams of design students will be working on new products, packaging and displays in the open „Idea workshop“. Under the direction of Prof. Jenz Großhans from the Cologne International School of Design of the Cologne University of Applied Sciences, a new, current theme will be tackled every day, addressed in the course of a workshop du-

ring the day and presented in an extremely vivid way by the afternoon.

International FoodTec Awards

Once again, DLG e.V. (German Agricultural Society) will be conferring the International FoodTec Award. This year, 18 innovative

projects from the international food and food supply industry will be distinguished with the renowned award.

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

Koelnmesse GmbH
D 50532 Köln

Exhibitors invited to dialogue

In 2015, EUROMOLD will kick off in Düsseldorf from the 22nd to the 25th of September with a new innovative concept



EUROMOLD – The World Fair for Moldmaking and Tooling, Design, Additive Manufacturing and Product Development will take place in Düsseldorf from the 22nd to the 25th of September 2015 – EUROMOLD invites exhibitors to Düsseldorf for info days on the 20th and 22nd of January 2015 – New trade fair concept will allow exhibitor co determination – The new concept ‘Evolution EUROMOLD’ further strengthens and expands important areas of the fair.

22nd - 25th September 2015: EUROMOLD, Duesseldorf (D)

With the move to Düsseldorf EURO-MOLD reinvents its position as the world's leading trade fair for moldmaking and tooling, design, additive manufacturing and product development. The new exhibition concept will also give exhibitors the opportunity to take an active part in ‘shaping’ EUROMOLD 2015, to take place from the 22nd to the 25th of September in Düsseldorf.

Interested exhibitors are invited to join us in Düsseldorf on the 20th or 22nd of January 2015 for two EUROMOLD info days to familiarise themselves with the hall conditions of the new site and share their opinions and ideas, while boot Düsseldorf, the world's leading trade fair for boats, yachts and water sports, is underway.

To make this established trade fair concept of EUROMOLD, which has for more than 20 years been running successfully even more effective at the new Düsseldorf location, EUROMOLD has set itself the objective to incorporate the wishes and ideas of exhibitors in the new exhibition concept.

Dr. Eberhard Döring, Managing Director of EUROMOLD:

The additive technologies are one example of the rapidly growing and important areas of the product development process chain, and the direct feedback from EUROMOLD customers is crucial in better representing this field to visitors. The input from exhibitors will enhance the entire field of engineering, as well as the tool, model and mold-making sectors to an even greater extent. True to the motto ‘from design to prototype to series’, the areas that are crucial for the development of new products, namely design and engineering, will be further expanded.

It is also essential for the new trade fair concept that EUROMOLD 2015 again manifests the character of the process chain trade fair as guiding principle. The focus is not only on the product designers and their innovative ideas, but also on the synergy between tool, model and mold-making and additive technologies.

“EUROMOLD is the original and so it will remain. We are evolving the substantive conception of our trade fair to be an even stronger partner for our customers to give them a head start, because as a medium-sized company we can identify with the needs of our customers.

Over a period of 20 years, EUROMOLD has developed into a brand and proven that

it has its finger on the pulse of time, where new products are not only conceived but also designed, and where the tools for these processes are shown,” says Dr. Eberhard Döring, Managing Director of EUROMOLD.

“The next EUROMOLD 2015 provides us all with a great opportunity. Many exhibitors with whom we are in contact have already commented positively on the new concept ‘Evolution EUROMOLD 2015’ and announced their participation.

We will respond equally to the needs of exhibitors and visitors, also by making an established trade fair concept even better with the strong partner we have in Messe Düsseldorf and to continue to expand. Our expertise and the experience of 21 years have taught us how to bring the right exhibitors and visitors together. We will do everything we can to re-establish and further strengthen the importance of EUROMOLD for product development, namely to industrially develop new products faster and more cost effective,” says Diana Schnabel, Managing Director of EUROMOLD.

EUROMOLD 2015 will take place at the Düsseldorf exhibition centre from the 22nd to the 25th of September 2015.

DEMAT GmbH - Direct Exposition Managing
and Trading
D 60596 Frankfurt am Main

On February 11 and 12 RAUMEDIC presented its newest technologies for the pharmaceutical industry on booth 507 at the Pharmapack in Paris. The polymer specialist focused on products for injection, drug delivery and inhalation.

RAUMEDIC presented its newest developments in the field of injection, drug delivery and inhalation at Pharmapack 2015



**10th - 11th February 2016:
Pharmapack 2016, Paris (FR)**

Effective Protection against needle stick injuries – RauSafe®

Needle stick injuries can result in health and financial consequences and are risk factors that have to be taken seriously in doctors' offices, hospitals and in the home care field. Therefore the EU Directive 2010/32/EU for the prevention of needle stick injuries came into force in May 2013.

For this reason RAUMEDIC offers an innovative safety device for injection systems. RauSafe can be adapted to a variety of existing injection systems on the market and provides reliable protection whilst being simple and intuitive to use.

After the injection the active safety device can be simply pushed forward like a telescope. As soon as the needle is completely enclosed, you can hear and feel the system click into the end position.

Drug Delivery

RAUMEDIC develops customised drug

delivery systems which offer better handling, exact dosage, and safer application as



RauSafe® provides safe protection against needle stick injuries.



RAUMEDIC Dosing Syringe

well as better patient compliance. Therefore RAUMEDIC reacts to the growing market need for dosing devices that allow an easy and exact drug application.

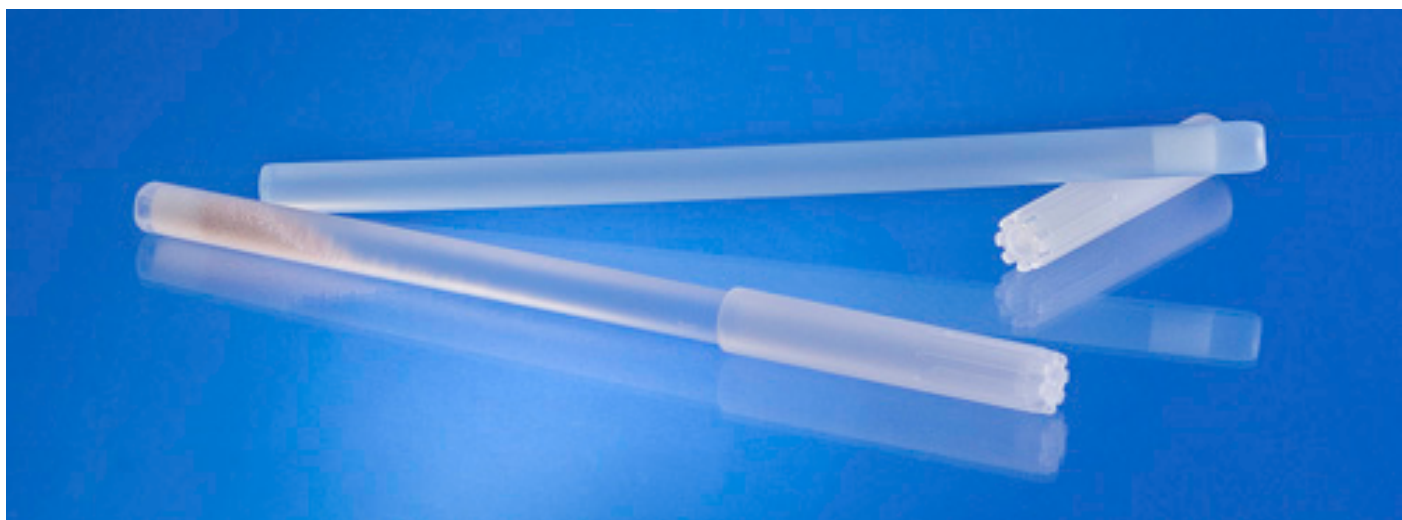
RAUMEDIC and DS TECHNOLOGY offer a patented system which enables easy and safe dosing of drugs in the form of pellets.

Imprecise dosing is prevented through the exact pre-dosing by the pharmacist. Therefore, this system is perfectly suited for the areas pediatrics and geriatrics.

RAUMEDIC is capable to produce and package the plastic components fully automatically. Filling and packaging of XStraw is handled by our partner DS TECHNOLOGY at its fully automatic assembly line.

Another example, that has already been developed and patented by RAUMEDIC, is a new dosing syringe with an external locking mechanism for the application of liquid drugs. The dosing is adjustable in increments of 0.5 ml which permits an individual and exact dosage.

Raumedic AG
D 95233 Helmbrechts



XStraw™ – for a simple, safe and exact dosage of drugs in the form of Pellets.

Arburg will present an application for processing liquid silicone (LSR) on its exhibition stand at the Medtec Europe to be held in Stuttgart from 21 to 23 April 2015. An electric Allrounder will produce bellows used as a valve in medical test devices. This application is designed to showcase Arburg's expertise and demonstrate the potential of the LSR material in medical technology, as well as to demonstrate that the clean room connection to the machine via an encapsulated conveyor belt is a cost-effective production solution.

Arburg demonstrates LSR processing at Medtec Europe 2015



- Clean production: injection moulded parts from electric Allrounder directly in docked clean room
- Flexible material: LSR offers multiple advantages for medical technology products
- Extensive range of products: many years of expert know-how and coordinated machine technology

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

The Medtec Europe is an important meeting point for all the leading companies in the industry. The focus will be on the manufacture of medical technology products. The Medtec Europe is the perfect platform for presenting our range of products and services and expertise, as well as maintaining contacts," says Sven Kitzlinger, who is responsible for application technology consulting in the medical technology sector at Arburg. "We have extensive specialist know-how in the processing of liquid silicone (LSR): Arburg has been developing special injection moulding solutions for processing this liquid material for more than 35 years. The properties of this material make it perfect for medical technology", explains the expert.

Versatile material

LSR is extremely heat resistant, flexible and offers excellent resilience. For medical technology, a good degree of resistance is essential for both standard and multiple sterilisation procedures. Simple dyeing as well as suitability for combination with a variety of metals and plastics make liquid silicones ideal for a wide range of applications. Because it is recognised as physiologically safe, LSR is ideal for use in medical technology. The market for LSR applications is expected to continue growing in the coming years, partly due to the increasingly wide range of materials available.

Electric Allrounder for LSR processing

At the Medtec Europe 2015, Arburg will present an electric Allrounder 470 A with a clamping force of 1,000 kN and a size 170 injection unit specially equipped for processing LSR. Bellows with a weight of three



The electric Allrounder 470 A presented at the Medtec Europe 2015 is specially equipped for processing LSR and use in the medical technology sector. (Photo: Arburg)

grams will be produced using a 4-cavity mould manufactured by the company Rico. Four parts are produced in a cycle time of 40 seconds with „free falling“ demoulding. The mould features open cold runner technology for direct injection. This ensures the production of flash-free and therefore rework-free parts. Demoulding of the item is performed automatically via an innovative pneumatically actuated wiper unit from Rico. The material Silpuran 6000/50 is supplied by Wacker, while the dosage system is supplied by Reinhardt.

Clean production environment

The Allrounder is specially equipped for production in a clean environment and features a laminar-flow box, a stainless steel sorter unit and an extended machine conveyor belt with tunnel housing for docking to the clean room. In addition, the light grey colour and raised machine feet ensure easy cleaning.

The direct-acting servo-electric drives on the machine are encapsulated and liquid cooled as standard to ensure a clean and low-emission production environment. A further energy-efficient measure is energy recovery during braking. Finally, a clean air module with ionisation (class ISO 3) above the

clamping unit provides the necessary clean atmosphere. Clean room elements indicate the possibility of transporting parts directly into the clean room along an encapsulated conveyor belt. Solution of this kind are extremely space-saving and economical because the machine and LSR dosage system are installed outside the clean room, which considerably reduces the required clean room volume.

Fulfilment of precise production requirements

Particularly in the field of medical technology, the requirements set by the OEMs and users must be precisely met. Here, the modular product range from Arburg has distinct advantages, as it renders production cells configurable and allows them to be precisely tailored to customers' production requirements. Further benefits include the various clean-room concepts and Arburg's comprehensive expertise in the area of medical technology and LSR processing as well as the opportunity to work with competent cooperation partners. This means that customer support is fully ensured from the outset through to commissioning of the appropriate systems.

ARBURG GmbH + Co KG D 72290 Loßburg



Horizontal cartoning machine CFC 2012: Bosch's CFC 2012 has been specially designed for large-scale secondary packaging formats. Thanks to its compact design, the machine is easily accessible from the front, as well as easy to clean and maintain.

High output also for large-scale formats

Bosch presents new horizontal cartoning machine CFC 2012



- Processes up to 200 folded cartons at 12 inches per minute
- High flexibility through servo-controlled format changes
- Optimized conveying technology for gentle product handling

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

At Anuga FoodTec, Bosch Packaging Technology, a leading supplier of process and packaging technology, launches the new horizontal cartoning machine CFC 2012. It was developed especially for large-scale secondary packaging formats of the food industry with a width up to 12 inches. "The development of the CFC 2012 is based on our long-term experience with bag-in-box machines and in-feed solutions, and backed by our profound line competence. Thanks to an optimized control and conveying technology, the cartoning machine ensures quick format changes, as well as safe and reliable product handling," explains Daniel Sanwald, product manager at Bosch Packaging Technology.

Flexible infeed and fast format changes

Due to a wide range of in-feed systems, the machine can be flexibly used for many different products, such as bags with or without side gusseting, as well as stand-up bags with gable top. Even with the largest folded carton and product formats, for instance for cereals, the machine achieves an output of up to 200 folded cartons per minute. Modern

servo technology guarantees supported, fast and reproducible format changes.

Optimized conveying technology for safe product handling

Due to the insertion aid, the CFC 2012 achieves the highest efficiency and product safety. The products are reliably and gently inserted into the folded cartons, thus ensuring that they remain intact at all times. Since transportation is lubricant-free, no grease can compromise the product infeed. The products are transported via a robust strap conveyor belt, which can be expanded segmentally. Moreover, the CFC 2012 operates quietly and requires little maintenance. A three-star rotor with patented dual drive enables the safe removal from the large stock of folded cartons, and ensures highest process safety throughout the entire format range. Thanks to the especially compact design, the machine can be easily accessed, cleaned and maintained from the operator side. "Together with the intuitive operation with an integrated HMI (Human Machine Interface), the horizontal cartoning machine stands for maximum operator friendliness at minimum maintenance effort," says Daniel Sanwald.



New horizontal cartoning machine for the food industry: Even for the largest format size, the Bosch CFC 2012 achieves an output of up to 200 folded cartons per minute. State-of-the-art servo technology ensures automatic, fast and reproducible format changes.

Primary packaging solutions for dry food products

For the packaging of dry free-flowing products such as coffee or tea, Bosch offers customized and modular vertical form, fill and seal machines allowing for high flexibility and a broad variety of pack styles and top closures. For customers looking for packaging solutions for flour or sugar, the new mandrel-wheel machine concept and its design provide a high degree of flexibility by shortening size changeover times. The portfolio is complemented by product protection systems such as valves and fully integrable equipment including hygienic auger fillers as well as checkweighers. Depending on customer requirements, the primary packaging machines can be combined with the respective cartoning machine to form a line. This way, the bagged products receive the matching secondary packaging.

Bosch's technologies are on display at Anuga FoodTec, Cologne, Germany, from March 24 to 27, hall 7.1, booth D010 - E019.



BOSCH
Technik fürs Leben

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Introducing the new METRO G material loader range



**23rd - 27th March 2015: NPE 2015,
Orlando (FL, USA)**

**20th - 23rd May 2015: Chinaplas
2015, Pazhou, Guangzhou, PR China**

motan will exhibit the whole range of solutions for plastics processing applications. The focus will be on four major product areas: The first is drying with compressed-air dryers and dry-air dryers. The second are conveying systems: the new METRO G material loaders can be integrated in automatic central conveying systems, which will reduce costs and improve productivity and competitiveness. The third area are dosing and mixing systems such as the new MINIBLEND V which will also be launched at the exhibition. It is a volumetric dosing and mixing unit for small-quantity dosing with high demands on dosing consistency. Last are control systems supervising material processing to ensure quality products.

motan colortronic's engineers look forward to communicating with all the industry users in Guangzhou in May.

Reduce waste and increase productivity with the new METRO G material loaders

Developed by motan engineers, METRO G combines the latest technologies from colortronic and motan and enhances those systems with a number of new features. The METRO G is the most comprehensive and flexible material loader on the market today. Its modular building block system allows users to create and configure the optimal material loader for their specific application. For exa-



METRO G product line

ample, a standard material loader unit can be expanded into a cleanroom version just by adding a special vacuum diaphragm valve. A dust removal module removes fine dust at the material loader, essential for some critical engineering plastics where absolutely no dust is allowed to enter the process. The system can also be fitted with modules with a tangential material inlet to provide a cyclone effect for processing those materials where separation of coarse dust is required.

Improve dosing with the MINIBLEND V

The volumetric MINIBLEND V dosing and mixing unit offers excellent mixing quality and consistently accurate dosing. Mounted between the machine hopper and the feed throat of the plastics processing machine, the unit requires very little space. Disc

dosing with the MINIBLEND V gives you real volume dosing which guarantees a very high dosing accuracy - even for very small dosing quantities. Three different disc sizes as well as dosing modules made of materials such as stainless steel or glass, and special wear-resistant discs for hard and abrasive materials are available. Module exchange is quick and easy and thus allows fast colour changes. The MINIBLEND V is designed to dose free and normal-flowing materials and micro-batches. The unit can be operated by motan's volumetric controls VOLU MC or VOLUnet MC, which is equipped with an Ethernet interface.

motan-colortronic gmbh
D 61381 Friedrichsdorf

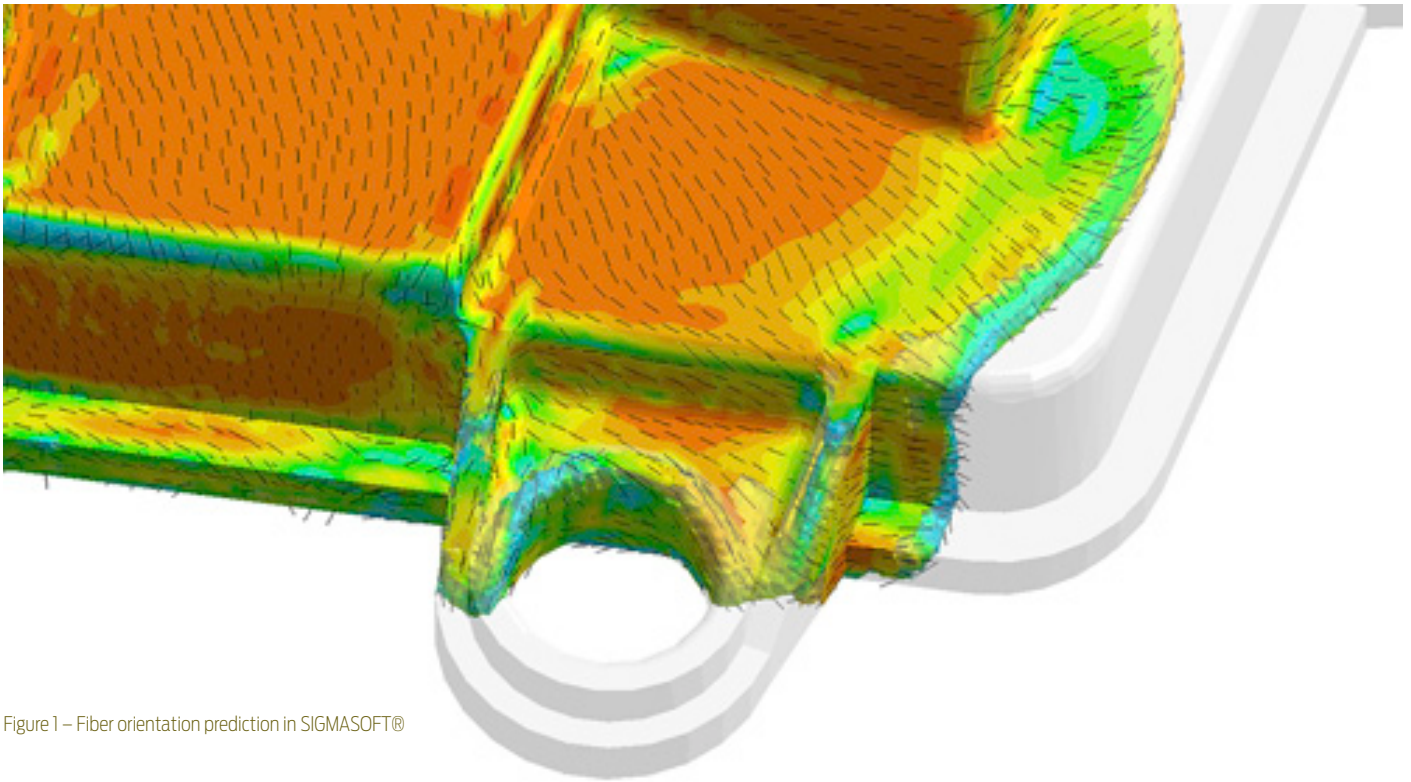


Figure 1 – Fiber orientation prediction in SIGMASOFT®

As the demand for fiber reinforced plastic parts increases, so does the need for accurate material models to predict mechanical performance. These models depend on the accuracy of the predicted fiber orientation in the injection molding simulation. SIGMASOFT® Product Manager Timo Gebauer explains at *Kunststoffe + SIMULATION*, which boundary conditions are required to obtain an accurate prediction of fiber orientation.

Fiber Orientation in Injection Molding: Getting the Right Picture



**22nd - 23rd April 2015:
Kunststoffe + SIMULATION 2015,
Munich (D)**

The demand for fiber reinforced plastics is on the rise, driven mainly by the automotive industry. With the increasing need for lighter vehicles with lower fuel consumption, part designers are turning towards metal substitutes, which provide a better stiffness-to-weight performance.

As weight becomes critical, it is paramount to avoid over-dimensioning when designing parts made of fiber reinforced materials. Therefore, it is important to have reliable material models available in structural simulation, which accurately predict the response of a molded part under static and dynamic loads.

This response is, to a large extent, affected by the process-induced fiber orientation. The mechanical properties of an injection molded part change locally depending

on the fiber orientation induced by the flow pattern as the material fills the cavity. Also the position of the weld lines in the part is relevant, as mechanical resistance is lower at these locations. Then again, the design accuracy also depends on the ability of injection molding simulation to predict fiber orientation.

Fiber orientation is nowadays a result present in most simulation software packages commercially available. However, sometimes the measured fiber orientation differs from the predicted value, without apparent reason.

In the specialized conference *Kunststoffe + SIMULATION 2015*, which takes place in Munich from April 22nd to 23rd, hosted by Hanser Verlag, SIGMASOFT® Product Manager Timo Gebauer addresses the topic of fiber orientation prediction in his presentation titled “Calculation of fiber orientation: can it work?”

“The models used to calculate the orien-

tation in process simulation are often not thoroughly understood. Also, there is rarely a consequent consideration of the input parameters and measured values used in the model”, explains Gebauer. “This leads to misinterpretations and imprecisions.”

The presentation describes the challenges faced when calculating fiber orientation in injection molding simulation. The classical models used to predict fiber orientation are addressed, as well as the measured material data and input parameters used to feed these models and their influence on the simulation results.

“The presentation is designed to make the picture of injection molding simulation clearer, and to illustrate for the user the required boundary conditions required to obtain an accurate fiber orientation prediction”, explains Gebauer.

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BOY will show a compact cleanroom application in Sweden



**21st - 24th April 2015:
Elmia Polymer, Jönköping (SE)**

At the Elmia Polymer plastics trade fair in Jönköping / Sweden from April 21 - 24, 2015, BOY will demonstrate to the professional attendees a cleanroom application on the compact BOY 35 E (clamping force 350 kN). In the booth of the Swedish BOY distributor AWI Maskin AB in hall / booth A01:15, protective insulin syringe caps will be produced without a sprue in a 16-cavity mould.

This machine, which is designed for the production of medical parts, will be equipped with special antistatic painting, an ionization box for air filtration in the mould area and many parts manufactured from stainless steel.

Advantageous design

“The less space that has to be separated from the ambient air, the lower are the technical and financial production costs,” explains Michael Kleinebrahm, BOY Manager Process Engineering. “Since the hydraulic clamping cylinder of the two-platen clamping unit is placed outside of the cantilevered mould space, this design provides significant advantages for part production under cleanroom conditions. The entire BOY 35 E cleanroom consists of the mould area of the clamping unit and an ionization box that is integrated on the safety gate in a space-saving manner. The investment and operating costs are therefore reduced to a minimum. Other cleanroom solutions, which are

available in the market, are mostly complex and therefore expensive. The compact BOY solution offers a well-priced, efficient alternative.”

The efficient BOY 35 E drive concept with a servo-motor pump drive generates little wasted heat. The laminar flow unit along with stainless steel gates completes an optimal cleanroom machine configuration. BOY, as the system supplier, cooperates with powerful, specialized partners.

The exhibit will be equipped with the multi-patented Procan ALPHA[®] 2 control. The control, which is configured as a nearly language independent unit, is characterized through intuitive operability. The multi-touch capability of the new, “smart screen” technology will be especially impressive. Just like with modern communication devices, pages are changed by swiping and scroll functions remain available.

Dr. Boy GmbH & Co. KG
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Compact cleanroom application on the BOY 35 E.

Impressum:

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