



Hans J. Michael GmbH



It has been more than ten years since RAUMEDIC AG, the development partner and system supplier for the medical and pharmaceutical industry, moved into the plant in Helmbrechts. The plastics specialist now has every reason to celebrate. Yesterday, at its headquarters, the company inaugurated a new building with numerous guests.

RAUMEDIC AG celebrates grand opening of new plant in Germany



Jobst Wagner – President of the REHAU Group, Martin Schenkel – Director Operations and Martin Bayer – CEO cut a RAUMEDIC tubing instead of a ribbon, as a symbolic opening act.

The expansion of the plant became necessary to make room for research and development, quality management, laboratory, production and logistics. 2,250 square meters of clean room space, certified according to ISO 14644 class 7, provide the polymer specialist with the space necessary to continue to grow with its customers. RAUMEDIC can implement new customized projects at the technology center with a focus on precision injection molding and fully automated assembly. High-tech system parts are manufactured using highly automated and hence economical processes, which form the basis for a long-term oriented development and production center for RAUMEDIC in Germany.

The company invested EUR 26 million in this. „An investment in the future,“ says Martin Bayer, Chief Executive Officer. The investment is a commitment to the location in Upper Franconia. „This is only possible

thanks to our skilled and loyal employees, who are the heart of RAUMEDIC.“ With the new building, RAUMEDIC will create another 190 jobs in the coming years.

Jobst Wagner, President of the REHAU Group, is also pleased with the positive development at RAU-



Automated high-tech production in the clean room

RAUMEDIC AG celebrates grand opening of new plant in Germany

MEDIC. „The company’s tremendous customer orientation is the basis for this success story.“

Good wishes were also conveyed by the District President of Upper Franconia Wilhelm Wenning representing the Bavarian government, the District Administrator of the district of Hof Dr. Oliver Bär, the Mayor of Helmbrechts Stefan Pöhlmann as Chairman of the Association Industrial Zone A9 and the President of the Chamber of Industry and Commerce Bayreuth Heribert Trunk.

RAUMEDIC was spun off from REHAU AG + Co. in 2004. At that time, the company had around 200 employees. Now, the polymer specialist employs 630 employees worldwide, exclusively in the medical and pharmaceutical industry. 470 people alone work at its headquarters in Upper Franconia, Helmbrechts.

At the same time, RAUMEDIC AG expands its international presence. A new production and technology center will be created in Mills River, in the US state of North Carolina, by the end of 2015.

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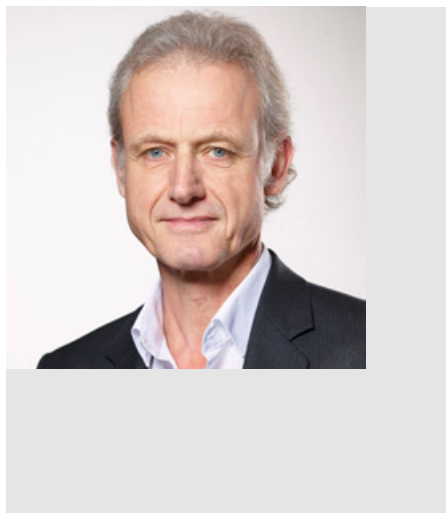


The new building

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Raumedic AG D 95233 Helmbrechts

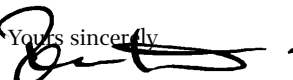
RAUMEDIC AG celebrates grand opening of new plant in Germany	1
TRUMPF opens subsidiary for laser diodes	3
PAS-X User Group Meeting Germany: Talk and workshop on the topic „Ease of operation on shop floor“	4
interpack 2017: exhibitor registration now open	4
Enhanced safety features for sensitive drugs	5
Gerresheimer presents the worlds first multilayer design in injection blow molding at CPhI	6
34th Motek and 9th Bond-expo Score with Record-Breaking Visitor Numbers	7
Cutting costs through reduced parts handling	8
Vetter Embarks on a 300 Million Euro Investment Strategy for Further Development To its Manufacturing Sites and to make available	
Additional Manufacturing Capacities	9
Satisfaction and beyond	10
A wide range of solutions for the flexible and secure packaging of medical products	11
Leading Exhibit – innovative single-use composite unit dose with tamper-evident cannula	12
DeburringEXPO Inspires Exhibitors and Visitors	13
Successful launch of BIOTECHNICA/LABVOLUTION dual exhibition	14
Preview MEDICA 2015: MEDICA and COMPAMED from 16 – 19 November 2015 with a new set of dates (Monday to Thursday)	15
24th Fakuma with Large Numbers of Exhibitors and Expert Visitors	16
Small components – big challenge	17
The TROLLEY concept	18
Humidity and Temperature Transmitter for Demanding Meteorological Applications	19
Total pressure measurement equipment from Pfeiffer Vacuum expands to include a new addition	20
Target Lab Compliance - PHARMALAB on 10-11 November, 2015, Swissotel Congress Centrum, Düsseldorf / Neuss	21



Dear readers, dear subscribers,

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

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

Yours sincerely

 Reinhold Schuster



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

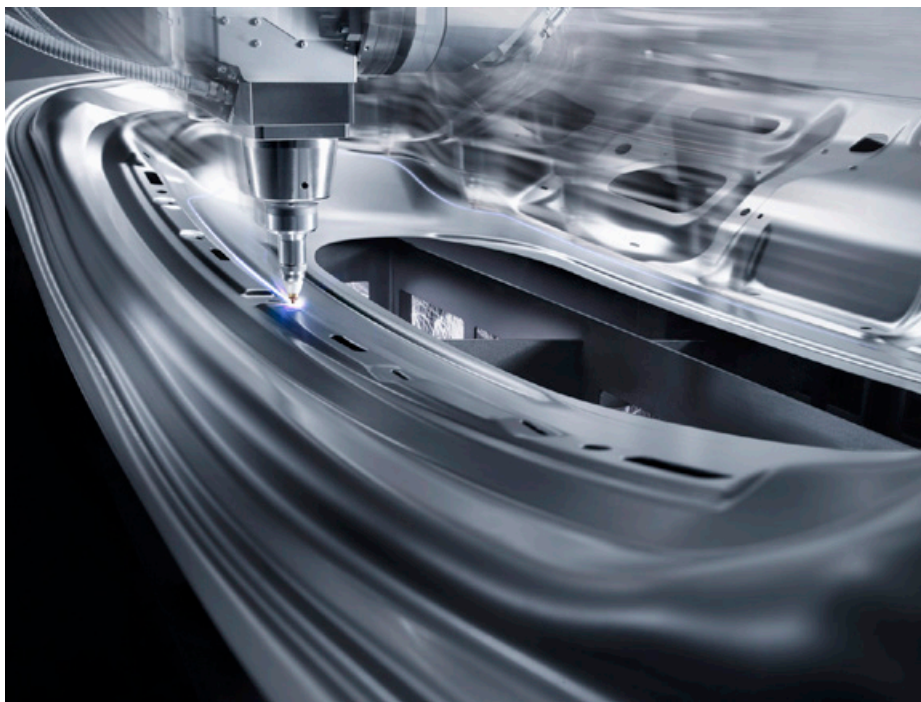


NEW

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

Advance engineering in the active Berlin research landscape - Contribution toward „green production“ with the laser - Close cooperation with the Ferdinand-Braun-Institut

TRUMPF opens subsidiary for laser diodes



Diode-pumped solid-state lasers have long been an indispensable tool in automotive production.

On October 1, the laser manufacturer TRUMPF will be opening a new subsidiary for the advance engineering of laser diodes in Berlin. In close proximity to, and in close cooperation with, the Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik (FBH) and other facilities and experts, the company wants to continue expanding its technological and market lead in the high-performance diode laser sector. The laser diode is a key module in today's laser technology, where it is used both as a pump source and as direct diode laser. This close cooperation between industry and research is aimed at making laser systems from TRUMPF even more energy-efficient.

„The Berlin subsidiary, with its initial staff of ten people and the joint ventures emanating from it, is of crucial importance for our development work on this key future topic,“ says Dr. Berthold Schmidt, head of the central department for Research and Development at TRUMPF. „We're attempting to look ten years ahead here, and to lay the foundations for future applications.“ Professor Günther Tränkle, Director of the FBH, adds: „We're looking forward to cooperate directly with TRUMPF in the active Berlin research landscape. The joint venture un-

derlines the capability of our FBH teams, as well as the desire, even of major players, to maintain and further extend their market lead with our assistance.“

TRUMPF and the FBH have already worked together for several years now on brilliant high-power diode lasers. TRUMPF also funds several PhD studentships at the FBH. „Over the past years our research activities have resulted in numerous patents, enabling further improvements to diode lasers,“ says Tränkle. „The demand is there and will continue to grow, because the market for laser systems that can process and cut metals is vast.“ For some materials, such as the tempered steel used in the manufacture of monocoque safety cells in automobiles, the laser is virtually unrivaled, and has long since become an indispensable tool in production.

Dr. Stephan Strohmaier, who runs the TRUMPF subsidiary in Berlin, adds: „For cutting thick sheet metal, a very powerful laser beam is required. Our goal is to efficiently combine ever more laser power inside an ever more brilliant beam – and we're getting better at it all the time.“ In terms of power density and power-to-light conversion rate, diode lasers from FBH and TRUMPF are currently among the most powerful in the



Optical arrangement in a TruDiode 6006 direct diode laser, which has impressively high efficiency.



The diode-pumped solid-state laser TruDisk 6001 is used in numerous cutting applications.

world, and new records are constantly being set in the laboratories. The Berlin TRUMPF subsidiary – which is not only well positioned in the fields of semiconductor laser physics, mounting technology, design, and simulation but also has its own clean room facilities – will be driving the development further.

TRUMPF is continuously improving the energy efficiency of its laser systems in order to enable „green production“ for its customers. Diode-pumped solid-state lasers and direct diode lasers, with efficiencies of 30 to 40 percent and higher, are pointing the way. They are not only especially efficient but also save on water and energy, and their compact design makes them material-friendly as well as comparatively cheap. With direct diode lasers, the laser radiation of several diodes is combined using optic elements to create a beam of constantly better focusability. This combination beam, only one tenth of a millimeter in diameter, can then be used to cut metals such as steel in the automotive and shipbuilding industries.

TRUMPF GmbH + Co. KG
D 71254 Ditzingen

The PAS-X User Group Meeting, organized by Werum IT Solutions GmbH and held on 24 and 25 September in Lüneburg, Germany, was pleased to welcome around 140 experts from 45 leading pharmaceutical and biotech companies from 20 different countries. In keeping with the motto „Technology meets Innovation“, Systec & Solutions GmbH arranged a session of their own to demonstrate all the advantages of an integrated MES/HMI solution.

PAS-X User Group Meeting Germany: Talk and workshop on the topic „Ease of operation on shop floor“



In addition to enhanced usability, advanced functions such as extra hardware keys for switching between different applications guarantee an optimum workflow. The process of introducing the MES/HMI solution is also speeded up by the fact that the individual components have already been matched up in advance – so there is no need for any testing.

A workshop with the participation of the visitors explored the essential requirements for GMP-IT hardware. The visitors were particularly keen on a robust, joint-free design conforming to protection class IP65. The systems should be ergonomical, easy to clean and simple to operate even when wearing cleanroom gloves. The monitor should have a large, clearly legible display. Further requests included interfaces, e.g. RFID and Bluetooth, and a facility for integrating scanners. Wireless battery charging was also considered to be a particularly useful feature. The battery should have a long operating time for maximum mobility. Other important factors are high-speed support and a minimum of administration work.

The subsequent presentation of the Systec & Solutions GMP-IT concepts met with great interest on the part of the visitors, as the systems ideally satisfy the requirements discussed.



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„components“ registration opens in parallel

interpack 2017: exhibitor registration now open

Interested companies of the packaging and processing sector in the fields of food, beverages, confectionery, bakery products, pharmaceuticals, cosmetics, non-food consumer goods, industrial goods and associated services can register as of now for interpack 2017. The international flagship trade fair of the packaging sector and related processing industries will be taking place at Düsseldorf's exhibition grounds from 4 to 10 May 2017. interpack is a platform for complete value chains, encompassing processes and machines for the packaging and processing of packaged products as well as packaging materials, packaging means and their production, and finally services to the packaging industry.

What makes interpack special is its unique array of exhibits and the peerless internationality of its exhibitors and visitors. The last interpack in May 2014 attracted some 175,000 experts, 84 per cent of whom reported being involved in decision-making processes in their respective companies. The overall verdict of the surveyed visitors was

excellent, with 97 per cent of them saying they would recommend the trade fair. Of the exhibitors, 83 per cent stated that they had acquired new customers.

It is possible to register for interpack 2017 online at www.interpack.com/1330. Companies who took part in interpack 2014 can retrieve their existing details. The official closing date is 29 February 2016.

Parallel event: „components“

Following its premiere in 2014, „components for processing and packaging“ for suppliers to the packaging industry is taking place with an overhauled concept in a central location at interpack. „components“ is targeted at exhibiting companies that supply drive, control and sensor equipment, products for industrial image processing, handling equipment, industrial software and communication, and complete automation systems for packaging machines. Also eligible to take part are manufacturers and suppliers of machine parts, subassemblies, accessories

and peripheral equipment as well as those of components and auxiliary materials for packaging means. There are no longer any constraints on company stand design, unlike in 2014 when only a selection of system stands was available. Registration within the same period as for interpack is possible at www.packaging-components.com.

WE INNOVATE

To mark the start of registration, interpack is consistently continuing its strategy, launched at the last staging of the fair, of addressing specific target groups. Under its main claim „We innovative“, the focus in communication via all channels is on stories of companies in the eight core target groups. Films about these „innovative eight“ form the centrepiece of the communication campaign.

This approach can also be found in the printed check-in magazine that potential exhibitors receive at the start of registration. Furthermore, all the films can be viewed not only on interpack's YouTube channel, but also at the totally revamped website www.interpack.com. This now also has a responsive design for optimised display on mobile devices.

Messe Düsseldorf GmbH
D 40001 Düsseldorf

Growth in the pharmaceutical and biotechnology industry continues at a dynamic pace. A large number of new diagnostic and therapeutic formulations are exiting from the development pipeline. 49 drugs which were placed on the German market in 2014 are based on new active ingredients. Besides innovative R&D and production techniques, advances in packaging technology are also needed for these products. In particular, the primary packaging material which comes into direct contact with the product ingredients has a crucial influence on product safety. Some producers are attempting to put advanced quality assurance systems in place to support development of primary packaging and to monitor the filling process. "Intelligent" packaging is another significant trend. Pre-filled disposable syringes and packaging with built-in quality detectors and dose administration aids provide additional functionality. At ACHEMA 2015, exhibitors in Hall3, in the Forum and in the Pavillon Agora presented their innovations in the field of pharma packaging.

Trend Report: Primary Packaging

Enhanced safety features for sensitive drugs



Protection of high-value ingredients and formulations, quality assurance and unrestricted functionality are top priorities during selection of drug packaging. The same applies to the ever expanding range of biopharmaceuticals produced with elaborate process technologies and used in applications such as the fight against cancer. Producers of packaging for pharmaceutical products must also comply with a number of anti-counterfeiting and traceability regulations. Then there are external factors to consider during shipment and storage such as temperature, exposure to light, vibration and contamination hazards. 8832 spontaneous reports of quality deficiencies and undesirable side effects were submitted to the German Pharmacists Association's Drug Commission (AKM) in 2014. According to information released by the Association, 41.6% of the incidents were the result of packaging faults, 12.5% involved mechanical defects and poor quality was the suspected cause of reduced effectiveness in 3.1% of the incidents. New EU directives mandate additional safety features such as serial numbers, seals and enhanced anti-tamper protection. The intention is to enable users and patients to immediately recognize whether or not the packaging has already been opened.

Challenging: proteins

The risk of quality degradation is a particular concern with medication that contains proteins. Proteins tend to unfold on surfaces and may interact with glass as well as with plastic, rubber or silicone components. Small amounts of the proteins in the formulation can be absorbed by the packaging material, impairing or altering the effectiveness of the medication. This is a particular concern with low-dose active ingredients. Thermal and mechanical stress during transport, storage and preparation can also significantly degrade the stability of proteins.

Many innovative biotech drugs are packaged as injections in pre-filled syringes which contain the correct concentrations and amounts. Due to their molecular structure, it is essential that protein medicines are administered parenterally. Based on experience, many producers and users know that particularly with pre-filled syringes the medication comes into contact with more materials than is the case with other types of packaging. Not only that, compared to powder or solid ingredients there is a higher probability that liquid medicines will interact with materials in the primary packaging. As a general rule, liquid preparations are more likely to leach dubious substances out of the primary packaging than is the case with powder or tablets. Eprex® is a case in point which illustrates the serious

consequences of this type of interaction. The medication had to be taken off the market for a time in 2001. Analysis showed that the polysorbate-80 used by the manufacturer as a stabilizer leached organic compounds out of the uncoated rubber stoppers during storage. This resulted in precipitation and formation of micelles which in some cases led to serious immunological reactions in patients.

New dosage forms

Active ingredients in syringes come into contact with all of the parts made of glass, plastic, metal and adhesive as well as the silicon oil lubricant. Schott has introduced a new design which reduces possible interaction between the active ingredient and the primary packaging. The intention is to provide a level of safety for sensitive active ingredients similar to that of pharmaceutical vials. The channel which connects the hub and the needle in the new syringes is made of flexible plastic. A seal keeps the liquid passageway closed during storage. The medication cannot come into contact with the metal needle or the adhesive in the syringe during shipment and storage. For added quality, tamper-proofing makes it immediately obvious whether the syringe is new or has already been used.

Developers show almost limitless creativity. A subsidiary of Harro Höfliger has developed a straw for children and the elderly which can be used to administer the active ingredient in pellet form. Patients can ingest the medication along with their favorite beverage. Exact dosing and a control filter ensure that the correct dose is taken.

Process integration and flexibility right through to filling

Packaging is by no means excluded from the major trends in the process industry. The strategy is to supply solutions rather than products. Manufacturers must offer a broad range of technologies covering as much of the value-add chain as possible.

A number of acquisitions and partnerships in recent months reveal the tendency to offer one-stop shopping. Romaco acquired Innojet Herbert Hüttlin in order to be able to provide engineering solutions for the entire production and packaging process of pharmaceutical solids. In December 2014, Bosch Packaging announced the formation of a joint venture with Klenzaid to supply complete lines, particularly for the Indian market. Bosch Packaging supplies process water treatment, fermentation, filling, packaging and quality control systems from a single source. Klenzaid specializes in cleanroom and process technology.

Enhanced safety features for sensitive drugs

Modularization and flexibility are a second major trend. Generics producers and contract manufacturers in particular have to design their lines to handle small batches with minimal changeover time while delivering safe products. Suppliers can provide lines which can be expanded as needed or reconfigured to handle a wide variety of applications. This applies not only to the hardware but to the software as well. Groninger, a producer of specialized machinery, is developing user interfaces which support quality control throughout the process for an average 25 - 100 stored formulations.

In-process and post-process quality control

DIR Technologies has developed a new induction sealing inspection technique for pharmaceutical containers. During the sealing process, the system performs 100% sealing integrity inspection and fill level detection on pharmaceutical containers such as bottles, bags and sachets, taking quality assurance to a new level. Inspection takes place in real time using non-invasive highly sensitive thermal imaging technology through the closed cap. It will be possible in the future to localize defects during induction sealing with greater precision and pinpoint exactly where to take corrective action. The manufacturer claims that the system can handle high throughput rates

without slowing down production.

A team of developers in Singapore has designed self-expiring packaging which can automatically draw the user's attention to the expiry date. The blister pack is made of multi-layer plastic. Warning symbols are printed on the innermost layer. The outer layer contains basic information such as the manufacturer's logo. Once the expiration date has passed, the diffusible material between the layers disintegrates, exposing the warning symbols. The developers won the Red Dot Design Award for this idea. Among other things, the system could be very useful for older patients who are unable to read the expiry date which appears on the packaging in small print.

Another innovation was on display in 2014 at the Lopece exhibition for printed electronics. The packaging has built-in temperature sensors made of nanomaterials which can remind patients to take their medication.

**11.06. - 15.06.2018: ACHEMA 2018,
Frankfurt am Main (D)**

DECHEMA Ausstellungs-GmbH
D 60486 Frankfurt am Main

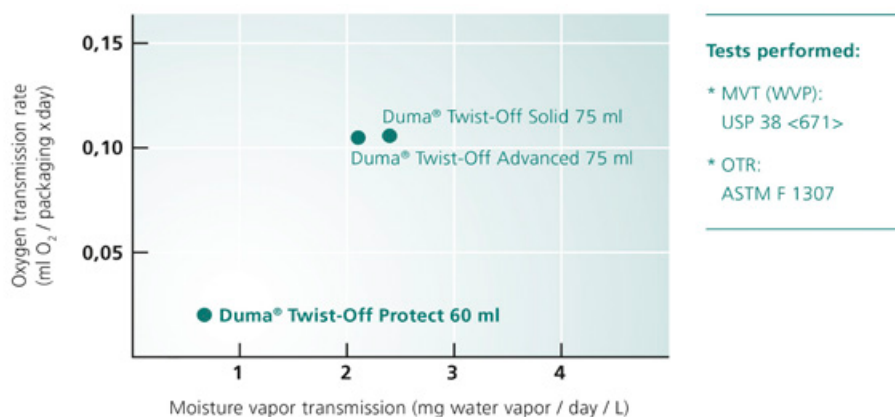
Gerresheimer presents with Duma Twist-Off Protect a new multilayer plastic container. First tests have delivered convincing proof that it offers sensitive pharmaceuticals extra protection against moisture vapor and oxygen permeability. It is the first plastic container with a multilayer structure manufactured in an injection blow molding process.

Gerresheimer presents the worlds first multilayer design in injection blow molding at CPhI



**04th Oct. - 6th Oct. 2016:
CPhI worldwide, Barcelona (Spain)**

"Many pharmaceuticals will be degraded caused by exposure to moisture vapor and oxygen. So these drugs need effective protection in the form of suitable packaging solutions," explained Niels Düring, Global Executive Vice President Plastic Packaging of Gerresheimer. "That's why we have extended our established range of Duma-family products to include an additional product with



improved barrier properties for enhanced and more reliable content protection."

U.S. Pharmacopeia MVT (WVP) USP 38 <671> and Oxygen Transmission Rate OTR: ASTM F 1307 tests confirm that the container admits far lower levels of moisture vapor and oxygen than other standard solutions in the market.

Compared to extrusion blow molded containers it provides extremely good barrier

properties due to a better control of geometry and thickness distribution.

Duma Twist-Off Protect is fully compatible with high-performance Duma Twist-Off closures (TE/CR/SF closures with and without desiccant) and the existing Duma Twist-Off range. At the same time there is no need for changes on the filling line.

Gerresheimer AG D 40468 Düsseldorf

Motek and Bondexpo – Industry Event with New Dimensions

34th Motek and 9th Bondexpo Score with Record-Breaking Visitor Numbers



10th Oct. - 13th Oct. 2016: MOTEK, Stuttgart (D)

The Motek international trade fair for production and assembly automation and the Bondexpo international trade fair for bonding technologies were held in Stuttgart from the 5th through the 8th of October, 2015. The new hall layout was used for the first time which, by leaving out mega hall 1, permitted a block-shaped arrangement of Motek and Bondexpo in the two rows of halls, namely 3, 5, 7 and 9 as well as 4, 6 and 8. The gamble paid off and provided all involved parties, namely the exhibitors as well as the expert visitors, with considerable added value. With 908 exhibitors from 25 countries at Motek plus 112 exhibitors from 9 countries at Bondexpo, the trade fair duo not only broke the 1000 mark once again, occupied floor space grew significantly as well to a total of 732,000 square feet (678,000 + 54,000) because many of the returning exhibitors had larger booths.

New Record: 38,568 Expert Visitors

In addition to the new hall layout, trade fair promoters P. E. Schall GmbH & Co. KG expanded their marketing measures in both printed and online media, and provided additional support to the exhibitors for their visitor canvassing campaigns. Furthermore, the range of target groups was extended thanks to optimisation of Motek's nomenclature and a stronger focus on process and system solutions expertise in production and assembly automation which, in the final analysis, resulted in the impressive figure of 38,568 expert visitors. This corresponds to an increase of roughly 8%, which is being assessed as a small sensation. The expert visitors came from 99 countries around the globe, for which reason Motek has earned its reputation as a "leading international trade fair for production and assembly automation".

The experts agree: the best Motek ever

Many of the exhibitors agree that this has been the best Motek ever to date, and expressed their satisfaction as follows: "Large numbers of expert visitors, and above all new ones! Lots of high quality business contacts! Perceptibly increased number of visitors and visibly more internationalism than ever before! We've been exhibiting here for a long time and have always been satisfied, but this was the best Motek ever for us! Quantity and quality were just right – for us the trade fair was a great success of unexpected magnitude!" The above mentioned marketing measures played a part in this success, as did optimised distribution of visitors to both rows of halls – especially in light of the fact that continuous visitor distribution also provides the exhibitors with additional options for adequate customer support, whereas the sudden appearance of large groups had to be dealt with in the past, which frequently overburdened booth personnel.

Baptism by Fire Passed with Flying Colours: the New Hall Layout

Longstanding project manager Rainer Bachert concerning the successful premiere of the new layout: "The concept for the new hall arrangement involving block-like distribution to the even and odd-numbered halls has been received very well and has proven its worth. Many of the exhibitors were sceptical at first, but at the end of the event they confirmed that they had significantly more visitors and that visitor flow persisted all day long, or even increased constantly. If we use the previous record numbers from Motek and Bondexpo 2011 as a benchmark, we can affirm – in combination with the exhibitor statements – that the event in 2015 has been the best Motek ever!"

Record-Breaking As Well: the Exhibitor Forum

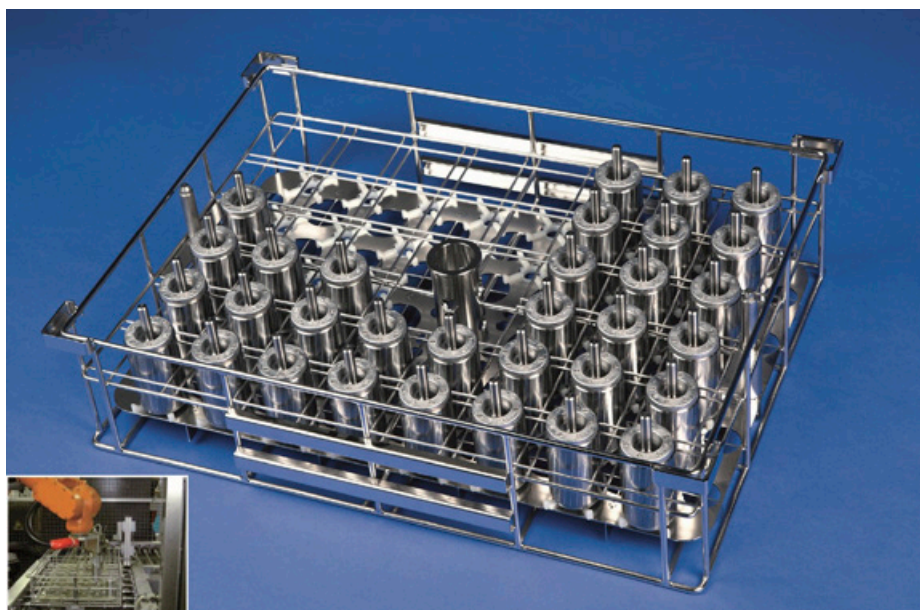
This is also made apparent by record-breaking numbers for the accompanying exhibitor forum, for which 1241 participants registered. The selection and restructuring of the topics, for example the "Robotics Conference", attracted more expert visitors than ever. Time spent in the forum area was greatly increased as well, because many participants weren't just interested in isolated presentations, but rather attended entire presentation series. The concept of process-oriented presentation of components, modules and subsystems, right on up to ready-to-operate complete solutions, together with the supplementary programme, convinced the exhibitors and above all the expert visitors from all over the world more than ever, and led to very good results for all involved parties.

This tremendous success of course represents both a duty and an incentive for event promoters P. E. Schall GmbH & Co. KG, for which reason new features and qualitative optimisations can also be expected at the next Motek-Bondexpo trade fair duo in 2016 (10 to 13 October)!

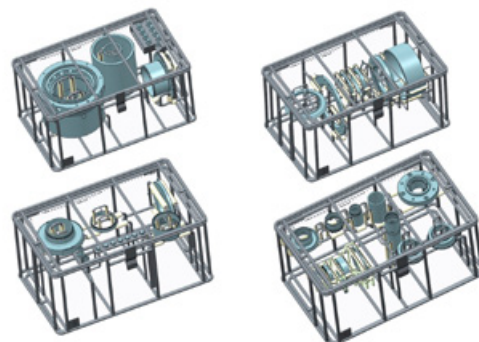
P. E. Schall GmbH & Co. KG
D 72636 Frickenhausen

Optimised cleaning baskets minimise costly internal logistics

Cutting costs through reduced parts handling



Cleaning baskets effectively integrated into internal logistic processes achieve high cost savings by reducing unproductive and costly transfer processes. (Picture: Metallform Wächter GmbH)



Workpiece holders designed for various components of an assembly offer many advantages. These include the effective control of production or a kanban system and a reduced space requirement in the assembly area. (Picture: Metallform Wächter GmbH)

From unfinished parts to assembly and packaging, components undergo many different manufacturing steps; these include mechanical processing, cleaning and inspection. In the process, they are frequently transferred to different containers, which takes up a great deal of time and generates high costs. Cleaning baskets, effectively integrated as part of internal logistics, can eliminate many of these unproductive and costly handling steps.

Today, stringent cleanliness specifications and high requirements in terms of cost effectiveness are key features of modern component production. In virtually all sectors, the demand for solutions that make processes more efficient is correspondingly high. Nevertheless, in many cases, internal logistical procedures are not considered when it comes to optimisation. As a result, components are repeatedly transferred to different baskets/containers for various processes (such as mechanical processing steps, cleaning, testing, joining operations, assembly and packaging). The non-productive time that this generates is highly labour-intensive and extremely costly.

Effective integration of cleaning baskets

To exploit the enormous cost reduction potential, Metallform takes account of the logistics needed for component production as well as criteria relating to parts and cleanliness in the design of its cleaning baskets. This calls for certain questions to be addressed: In which manufacturing steps are parts currently transferred? When does cleaning take place? Which processes are upstream and downstream to cleaning? Can parts be fed into these processes in the cleaning basket? Based on the results, the company specialising in the development and production of efficient cleaning and transport baskets creates the ideal solution. A workpiece holder that reduces transfer processes to the absolute minimum while guaranteeing efficient cleaning processes of consistent quality. This cuts down on costly parts handling while substantially reducing the risk of component damage and re-contamination as a result of handling processes – and not least, the number of transport baskets required is drastically lowered. The workpiece holders can be adapted to the requirements of both manual and automated assembly.

Maximum process reliability and cost effectiveness

Cleaning baskets have to be adjusted to specific demands and designed for one particular part or a family of parts. For part-families, flexible solutions consisting of a universal base frame and interchangeable, part-specific inserts allow the adaptation of the workpiece holders to parts of varying size. Such flexibility also offers advantages if the range of parts changes

as only the inserts, which are adapted to the workpiece geometry, need to be replaced.

The alternative is a workpiece holder designed for various components of an assembly. The part receptacles for each component of the assembly are designed on a part-specific basis by the design engineers of the Bretten-based company. This approach has several advantages. Firstly, the worker can determine whether the assembly is complete already when fitting the workpiece holder. Workers also benefit from a continual overview of the stock of required parts, and have the option of controlling production or a Kanban system effectively. Moreover, since all components needed are contained in a single workpiece holder, the space requirement in the assembly area is reduced compared to a non-mixed delivery. As a result, there is no need to waste time collecting parts from numerous baskets or interrupting assembly due to missing parts. This makes assembly not only easier but also more reliable. Depending on the number and size of the components, workpiece holders can be designed for one or more assemblies and adapted to different versions.

Internal logistics still offer a high potential for improvement by which major cost savings can be achieved while enhancing process reliability.

Metallform Wächter GmbH
D 75004 Bretten

First activities resulting from the investment already underway

Vetter Embarks on a 300 Million Euro Investment Strategy for Further Development To its Manufacturing Sites and to make available Additional Manufacturing Capacities

Vetter has announced that in keeping with its commitment to providing customers with the manufacture of high quality drug products, the company will invest approximately 300 million euros to expand and upgrade its manufacturing facilities over an estimated five-year period. As a leading contract development and manufacturing organization, Vetter is continuously developing its manufacturing sites and techniques to prepare them for future needs and requirements. The upgrades are being driven by a changing healthcare market that is affected by issues such as ever-more complex molecules, smaller batch sizes, and increasing regulatory requirements.



Structural work completed: A portion of the 300 million Euro investment is directed to completion of the Ravensburg Vetter West facility expansion.

The first of the facility expansions are already ongoing at several of the company's German locations including its 'Ravensburg Vetter West' center for visual inspection and logistics. Structural work for the facility enlargement, which will offer more than double of its current capacity, is completed with the site being on schedule to become fully operational in 2017. In addition, the Ravensburg Vetter South production site has also been designated for significant enlargements as is the Ravensburg Schuetzenstrasse facility where initial construction activities began in 2013. All three site expansions will result in additional capacities for drug product manufacturing and logistic services.

A central technology element of the planned upgrades will be the implementation of an in-house made improved restricted access barrier system (RABS) concept which will contribute to increased operational excellence in aseptic manufacturing. For decades, Vetter has relied on RABS as one of

the two distinct technologies available today for its aseptic filling processes, the other being isolators. RABS achieves the sterility assurance level (SAL) required by regulatory authorities, and allows for rapid product change-over coupled with high safety. To better meet future industry trends in quality, safety and flexibility, a corporate project team has evolved this 'Improved RABS concept' by combining the advantages of isolator and RABS technology. The core of the approach is a uniquely fast, by today's standards, 3-hour cycle and fully automated decontamination of the cleanroom using hydrogen peroxide (H₂O₂), resulting from an extremely high level of process innovation. Following a successful pilot project in a selected cleanroom the company will now implement this decontamination concept in all of its cleanrooms within the next years.

All of the planned activities are designed to meet future customer expectations and regulatory requirements at an early stage,

maintaining a level of manufacturing excellence that customers have come to expect from Vetter. "We are continuously monitoring and reacting to a changing marketplace and are pleased that we are in the position to be able to make these strategic investments to further develop our sites and meet these challenges. Individually and collectively, they will help us keep pace with the market and allow us to continue to build a successful future for Vetter and our customers," said Vetter Managing Director Peter Soelkner. Managing Director Thomas Otto added "As trusted partners for drug product development and manufacturing, it is our intent to always get each customer's job done right. In order to reach this level on a continuous basis, these investments are the right step, at the right time."

Vetter Pharma International GmbH
D 88212 Ravensburg

The initial feedback received by the organizers of ACHEMA 2015 paints a very favorable picture: positive event statistics, a long list of announcements on business deals and a lot of work for the sales organizations in the weeks ahead to follow up on new leads. ACHEMA attracted slightly more exhibitors this year. Visitor numbers were almost exactly the same as for the previous ACHEMA show. 166,444 trade visitors from around the world made their way to the Frankfurt exhibition grounds on June 15th – 19th, 2015. 3,813 exhibitors from 56 countries put the latest innovations for the chemical, pharmaceutical and food industries on display. ACHEMA 2012 attracted 166,447 visitors and 3,773 exhibitors. The extensive range of new products and initial product introductions underline the importance of ACHEMA as the “world innovation summit”.

ACHEMA 2015 ends on a high note

Satisfaction and beyond



“It will take us a few more days to fully analyze the visitor statistics. However, the initial figures indicate that visitor length of stay has reached a turning point,” said Thomas Scheuring, CEO of DECHEMA Ausstellungs-GmbH. “Visitors came to the exhibition grounds on more than one day. They had specific interests and they took all the time they needed to gather a large volume of information.” Initial trends indicate that the proportion of international visitors has risen by a significant margin. Also for the first time, more than half of exhibitors (53.9%) came from outside Germany. China was second in the exhibitor number rankings behind Germany and was ahead of Italy by only the narrowest of margins. There was also a substantial increase in the number of companies from Turkey, Taiwan and India. Austria, the UK and Spain showed the largest increase in the EU region. France and the US were again well represented.

133,436 m² of exhibition space was divided up between 11 exhibitor groups. Growth was particularly noticeable in the pharmaceutical, packaging and warehouse logistics industries, which booked additional space this year, as well as in the instrumentation and process control category. This latter group benefited from the unmistakable tendency in the process industry to further increase the level of automation as well as from user demand for greater flexibility, both of which come under the umbrella of Industry 4.0. Equipment manufacturing along with lab and analysis systems, however, showed a slight decline.

The congress program was also well received. “Our efforts to streamline the program and avoid parallel sessions dedicated to similar topics were well worth the effort,” claimed DECHEMA CEO Prof. Kurt Wagemann. “That made it much easier for visitors to arrange their agendas.” Despite the streamlining, the roughly 800 presentations covered the full spectrum of process technology. The sessions dedicated to the focus topics were very well attended, and material technology also attracted a large audience. An above-average number of visitors at-

tended the sessions on heat exchangers and energy efficiency. The two panel discussions „Bioeconomy in the Shale Gas Trap?“ and „German Energy Turnaround – the Future or No-Man’s Land“ were genuine highlights and attracted a full house.

One issue outside the boundaries of the focus themes BiobasedWorld, industrial water management and innovative process analytical technology surfaced as a common thread in all of the discussions, namely Germany’s positioning as an innovation hub. Many industry experts have concerns. Germany and Europe are in danger of falling behind as attractive business locations unless there is genuine improvement in the innovation climate. The warning was issued by a number of high-profile industry figures at ACHEMA. At the opening press conference on Monday, VCI CEO Dr. Utz Tillmann among others expressed the need for a better innovation landscape and an „innovation culture“. At a panel discussion on Tuesday, Wolfgang Büchele, who is Chairman of the Board at Linde, emphasized the need for a greater willingness to embrace change. Otherwise, innovation will happen in other parts of the world and not in Germany and Europe. In his keynote talk on Thursday, Bayer Technology Services CEO Dr. Dirk van Meirvenne urged the chemical industry to concentrate on innovation.

The next date on the event calendar for the process industry is AchemAsia which will be held in Beijing on May 9th – 12th, 2016. The next ACHEMA is scheduled to take place on June 11th – 15th 2018 in Frankfurt am Main.

**9th - 12th May 2016: AchemAsia,
Beijing (China)**

DECHEMA Ausstellungs-GmbH
D 60486 Frankfurt am Main

16 - 19 November: MULTIVAC at COMPAMED 2015 in Düsseldorf

A wide range of solutions for the flexible and secure packaging of medical products

At COMPAMED, which takes place from 16 to 19 November in Düsseldorf, MULTIVAC will be showing innovative packaging, labelling and marking solutions for sterile items and other medical products, among them a compact thermoforming packaging machine for packing products in small batches. All MULTIVAC's packaging solutions are individually designed for the product that is to be packed. The result is a comprehensive packaging system, which guarantees not only maximum pack quality but also a flexible, secure and reproducible packaging procedure.



Thermoformer Clean Design

16th - 19th Nov. 2015: COMPAMED + MEDICA, Düsseldorf (D)

With the R 081 thermoforming packaging machine, MULTIVAC will be presenting an entry-level model that is designed for packing products in small batches. The R 081 is also suitable for cleanroom applications and can be used for producing both vacuum packs and modified atmosphere packs with reduced residual oxygen content. The machine can run both flexible and rigid films as well as Tyvek® and paper-based packaging materials. It is equipped with electrical lifting units, which contribute among other things to a consistently high level of sealing quality.

In addition to this, MULTIVAC will also be showing a thermoforming packaging machine in the MULTIVAC Clean Design™, which can run a wide range of packaging materials and is designed to pack sterile medical products to GMP standards. MULTIVAC's proven drawer system provides for frequent, reproducible and quick format change. This machine also makes changing the cutting tool of the complete cutter significantly easier. This means that the machine is very flexible when it comes to packing different products in different batch sizes. In the interests of reliable line clearance, the area for product processing is strictly separated from the area of the machine equipment. Transparent enclosures with large doors pro-

tect against environmental influences and, thanks to perfect overview of the process, they increase the security of the packaging procedure against any products being lost.

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

As regards the packing of products in film pouches, MULTIVAC will be presenting the C 200 TC and C 300 TC chamber machines. Their permanently heated sealing bars offer a high degree of process reliability and reproducibility. Thanks to the IPC control of these chamber machines, which can be validated and calibrated, all the processes can be monitored and controlled.

As regards the area of labelling, the BASELINE L 300 conveyor belt labeller will be exhibited, a cost-effective solution for simple top and bottom labelling tasks as well as applying labels over the edge of packs.



C 200 TC Chamber Machine



C 300 TC Chamber Machine



R 081



T 260

MULTIVAC Sepp Haggenmüller GmbH & Co. KG
D 87787 Wolfertschwenden

Spang & Brands on COMPAMED, Dusseldorf, November 16 – 19, 2015

Leading Exhibit – innovative single-use composite unit dose with tamper-evident cannula

During Compamed 2015, Spang & Brands presents a unique Composite Unit Dose (CUD) with tamper evident closure (TE seal) as exhibition 'premiere'. The device is audibly different: the closure opens with a clearly audible 'click' and cannot be resealed afterwards.



16th - 19th Nov. 2015: COMPAMED, Düsseldorf (D)

Introducing pheneo click![™], a CUD which serves as primary packaging for single application treatments in the dental health sector - for the filling of a cavity following tooth decay treatment.

Shortly after Compamed 2013 design experts at PHENEO and Spang & Brands began their collaboration to develop the new CUD. PHENEO, with its headquarters in Bremen, Germany, is a creative organization offering new and innovative primary packaging solutions for pharmaceutical and dental industries, among others. In Spang & Brands PHENEO discovered the ideal partner. The systems supplier has many years' experience in the development and manufacture of components and systems for medical applications. The organization distinguishes itself by the highest levels of competence in multi-component injection moulding. In close cooperation, an innovative closure was developed where a specific compatible mixture of plastics materials and highly secure unit-dose packaging are combined to guarantee patient compatibility and safety.

The supreme challenge was to select the correct materials as both soft and harder components are used and must perfectly harmonize with each other. Other important factors which had to be taken into consideration during product development were safe and precise handling, not forgetting streamlined construction, including emphasis on highest possible functionality.

Right from the start, Spang & Brands was firmly on board with all aspects of the development of the new CUD: close cooperation in the design phase and concept decision, followed by testing a variety of raw materials. The exacting demands of the designers were implemented to create accuracy - within µm range. Narrow, yet, deep flow paths for a variety of filling compounds had to be born in mind, given differing ranges of application pressure. The principal challenge was to achieve that each of the respective filling compounds could be administered without remaining residue and without flow-back. The final result: a CUD, fully compliant to satisfy the highest possible demand, and with a total weight of just 0.5 grams.

Following meticulous experiments, carried out in the new Spang & Brands TechCenter, plastics compositions were found which are processed involving the multi-component injection

moulding technology. In addition, they satisfy patient tolerability, pharmacological and medical safety, opacity at certain wavelengths, user-definable encodability (laser etc.) and, last but not least, they guarantee inter-compatibility. A very specific TPE formula was chosen for the TE closure - a soft component - which harmonizes with the PBT recipe of the light-resistant PBT component, a hard component. The innovative joining technology, incorporating hard and soft materials, had to ensure that the TE closure only breaks at a certain traction force - does so with a clearly audible 'click', and without leaving any residue. Furthermore, the TE material had to be designed in such a way as to render the pheneo-click![™] unusable following the original application. This means that the cannula cannot be resealed; it cannot be used again.

Individuality and safety are additional advantages of the CUD. Every customer, pharmaceutical or dental device manufacturer, will be able to select color and shape of the different closures - dependent on the specific applications or even the viscosity of the filling compound. Therefore, confusion is eliminated, as far as it is possible. Also, the TE closure obviates inadvertent multiple use and the hazards of contamination. In future, construction of this CUD innovation allows for a number of other shapes and neck length to accommodate a wide variety of applications.

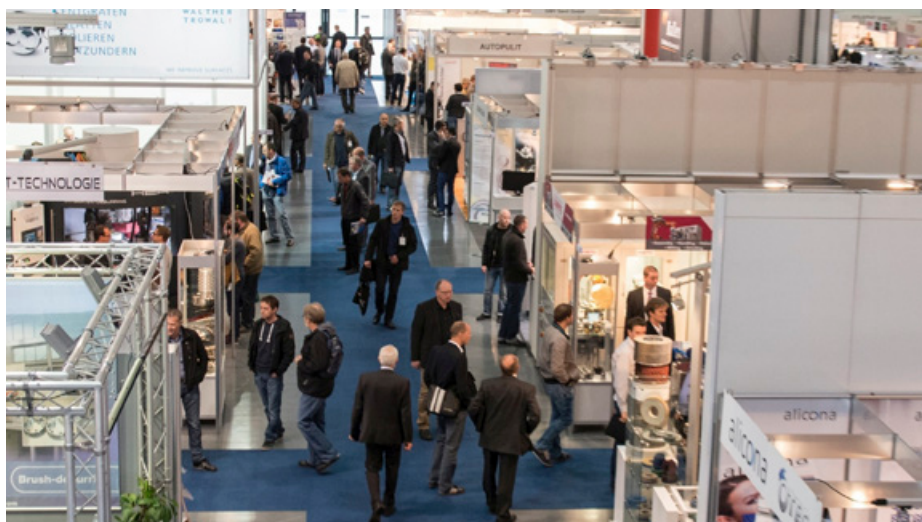
The partnership between Spang & Brands and PHENEO resulted in the creation of a state-of-the-art CUD system which provides increased patient safety by much reduced germ contamination. This single-use closure ensures that tooth decay treatment is administered under maximum hygienic conditions. As a result, the product is well ahead of any possible future tightening of hygiene guidelines. Moreover, the dental practitioner benefits from the device's added value: the certainty of a safe product in its original packaging. Ultimately, the pheneo click![™] CUD makes a significant contribution to enhanced medical care for both the user and the patient.

Spang & Brands GmbH
D 61381 Friedrichsdorf

Deburring and Polishing Technology Now at Home with a Trade Fair in Karlsruhe

DeburringEXPO Inspires Exhibitors and Visitors

“We’re highly satisfied with the new trade fair and it’s exceeded our expectations” – nearly all 108 exhibitors at the first DeburringEXPO in Karlsruhe arrived at this entirely positive conclusion. 2038 visitors from 31 countries gathered information regarding the state-of-the-art and current developments in the areas of deburring, rounding and polishing during the three-day trade fair. Their outstanding technical qualifications and decision making authority resulted in concrete orders and top quality leads for the exhibitors. Furthermore, 1473 visitors took advantage of the opportunity of deepening their knowledge by attending presentations held at the expert forum at the trade fair for deburring and polishing technology.



DeburringEXPO delivered a custom-tailored trade fair premiere from the 13th through the 15th of October, 2015. With 108 exhibitors from eleven countries (22% from outside of Germany), event promoters fairXperts GmbH & Co. KG succeeded in putting together comprehensive, representative offerings in the areas of deburring, rounding and polishing. The unique platform drew 2038 visitors to the Karlsruhe Exhibition Centre. 14.8% of the visitors came from 31 countries outside of Germany.

“Due to the fact that this was a premiere event, we came to Karlsruhe with minimal expectations and were pleasantly surprised. Feedback from the visitors was tremendous and practically every visitor had a concrete task in hand, for which a solution is required. Many brought components and drawings along with them, making in-depth discussions possible which resulted in tangible projects. We’ll exhibit again at DeburringEXPO in 2017”, reports Jürgen Mang from sales at Kennametal Extrude Hone GmbH. Rösler Oberflächentechnik GmbH is also very satisfied with the way things went at the debut event: “As a globally leading company in the field of barrel finishing, there was no question for us that we mustn’t miss out on DeburringEXPO, and participation has paid off. We had visitors from a great variety of industries, for example automotive, medical technology and casting, and each and every lead was good because they all involved defi-

nite tasks. At times it would have been good to have a bigger booth and more personnel”, says Lucca Schlichting, barrel finishing machine sales, regarding her experience.

And it wasn’t just the number of visitors that resulted in satisfaction amongst the exhibitors, but rather their high levels of technical qualification and decision making authority as well. 94.6% of the expert visitors are involved in company procurement processes. For Costa Levigatrici S.p.A., an Italian manufacturer of deburring and polishing machines, this led to definite orders: “All of the visitors came here in search of solutions for their own specific deburring tasks, some of which have to be implemented on short notice. Consequently, we were able to sell two machines directly at the event and establish lots of very valuable contacts. It was a very successful trade fair for us and I think we’ll exhibit again at DeburringEXPO 2017”, explains sales manager Roberto Martini. Günter Gözl, managing director of Benseler Entgratungen GmbH, was every bit as enthusiastic: “We’re very happy that fairXperts has initiated this platform. Our expectations have been more than exceeded. For us, it’s been our most successful trade fair presentation ever so far, and thus there’s no question that we’ll be back again in 2017.” For strategic business director Sitanshu Gupta as well, the decision has already been made that Imexsu Europe GmbH will be on hand at the upcoming trade fair for deburring and

polishing: “We manufacture deburring products, which makes it extremely important for us to be represented at DeburringEXPO. The promoter has succeeded in making the right audience aware of the event – beyond Germany’s boundaries as well. As a result, we not only had significantly more high quality leads than we expected, they were very international as well, for example from Poland, Portugal, Austria, Great Britain and even India.”

The fact that the concept developed for DeburringEXPO, which is consistently aligned to the fields of deburring, rounding and polishing, was also well-accepted by the visitors, is not only illustrated by the exhibitors’ positive reactions. 80% of the visitors are satisfied with the offerings presented at the first trade fair for deburring and polishing technology, and roughly 69% would recommend the event to their business partners and colleagues. With regard to visitor distribution, main focal points included vehicle manufacturing, machinery and equipment manufacturing, medical technology, as well as tool and mould making.

Expert Forum in Demand

The expert forum was one of the highlights at DeburringEXPO. 1473 visitors took advantage of it during the three-day trade fair in order to expand their knowledge of various issues regarding all aspects of deburring, rounding and polishing, and to exchange experience. Roughly one third of the expert visitors chose the day on which they attended the trade fair on the basis of the agenda for the expert forum.

The all-in-all highly positive feedback indicates that the suppliers as well as the users of products and services covering all aspects of deburring, rounding and polishing are now at home with their trade fair in Karlsruhe. This is also confirmed by the fact that numerous exhibitors have already entered the next DeburringEXPO to their trade fair calendars, which will take place at the Karlsruhe Exhibition Centre from the 10th through the 12th of October, 2017.

fairXperts GmbH D 72639 Neuffen

Successful launch of **BIOTECHNICA/LABVOLUTION** dual exhibition

- Attending professionals delighted with special “smartLAB” display
- Digitization and “biologization” spark lively discussion
- New spring timeslot: Next dual event to run from 16 to 18 May 2017



16th - 18th May 2017: **BIOTECHNICA/LABVOLUTION, Hannover (D)**

The producers of the BIOTECHNICA and LABVOLUTION dual exhibition drew positive conclusions at the close of the event on Thursday, 8 October. Some 10,000 trade visitors traveled to Hannover to take advantage of the business opportunities offered by BIOTECHNICA as the European networking hub for bio-technology and life sciences and the first-ever LABVOLUTION (the World of Lab Technology), thus making the inaugural staging of this dual event a solid success. The new LABVOLUTION showcased lab technology for customers from the chemicals and pharmaceuticals industry as well as from environmental engineering, quality assurance and the food industry, while BIOTECHNICA remains focused on biotechnology and the life sciences. The next such double-header exhibition is scheduled for 16 to 18 May 2017.

“Our strategy of jointly staging LABVOLUTION and BIOTECHNICA has paid off,” reported Dr. Jochen Köckler, Member of the Managing Board at Deutsche Messe. “With LABVOLUTION putting the focus squarely on lab technology, we are now giving this high-interest topic even stronger coverage, while at the same time attracting new business sectors to the show. This is a logical extension of the established BIOTECHNICA format, which has served as a central networking hub and magnet for the biotech industry.” The debut edition of LABVOLUTION drew more than 100 exhibitors to Hannover – over 40 percent of them from abroad.

Special highlights: smartLAB and BIOTECHNICA Plaza

The hottest topic at the three-day event was digitization and its consequences. Accordingly, the biggest visitor magnet proved to be the special display entitled “smartLAB – the intelligent lab of the future” staged within the LABVOLUTION fair. The fully integrated smartLAB demonstrated how the use of software, automation, robotics, augmented reality, wearables and big data are set to change everyday lab routines across a wide variety of applications. “The innovative smartLAB showcase revealed

the opportunities and potential inherent in LABVOLUTION,” commented Köckler. “This new trade fair will be back again next season, providing an international hub for networking and debate on the future of the lab.” 12 partners from industrial enterprises as well as from the R&D community teamed up in the staging of smartLAB, and trade visitors rewarded their efforts by taking extensive advantage of the chance to explore and debate the future of the laboratory in a series of smartLAB forum talks.

Among the highlights at BIOTECHNICA was the new BIOTECHNICA Plaza, which served as a central hub for knowledge transfer and networking – both high on the agenda for future editions of BIOTECHNICA, as well. The BIOTECHNICA Plaza featured a new approach: It addressed all of the show’s overarching themes at a single location and offered conferences geared specifically to the key topics of the bio-economy, personalized medical technologies and – for the first time so prominently featured – Bio-IT. The new, free-of-charge BIOTECHNICA Partnering tool offered in cooperation with the EBD Group was also well received, with some 200 exhibitors and visitors taking advantage of BIOTECHNICA and LABVOLUTION to schedule meetings and generate new leads.

Attendees even more international, and of even higher caliber

With attendance by some 10,000 professionals, the 2015 event was on a par with its previous showing, with a somewhat higher percentage of visitors coming from outside of Germany. The event drew a greater number of visitors not only from other EU countries, but also from North America and Asia. A visitor survey revealed that of all German trade visitors, just under half came from northern Germany. BIOTECHNICA/LABVOLUTION 2015 was also found to have attracted a greater percentage of high-level executives, with one out of every four trade visitors playing leading roles in their organizations. Substantially more than half of all visitors had either top or shared responsibility for purchasing or procurement decisions. According to the visitor survey, the overwhelming majority of visitors were satisfied with the event, with over 80 percent rating it as either very good or good.

The Hannover event featured key companies like Analytic Jena, the IBM-owned Aspera, Bruker Optics, Büchi Labortechnik, Carl Zeiss Microscopy, Ewald Innovations-technik, Eppendorf, GE Healthcare, Hamilton Robotics, Merck Millipore, Mettler Toledo, Sarstedt, Tecan, Testo and Qiagen. The special smartLAB display was staged with contributions by the likes of Eppendorf, the Fraunhofer Institute for Manufacturing Engineering and Automation, Merck, Köttermann, Sartorius, Stäubli Robotics and the Institute of Technical Chemistry at the Leibniz University of Hannover. A highlight at the event consisted of the presentation of the EUROPEAN BIOTECHNICA AWARD to the Swiss-based firm Molecular Partners AG during the BIOTECHNICA/LABVOLUTION reception on the first night of the show.

ELA satisfied with attendance figures

The European Lab Automation Conference (ELA) also gave positive ratings to the event. Produced by British-based SELECT-BIO, ELA – Europe’s biggest event featuring automation in the life sciences – took place congruently with BIOTECHNICA and LABVOLUTION in Hannover. Some 200 conference attendees convened at the on-site Convention Center to discuss topics like Laboratory Automation and Robotics, Genome Engineering and Personalized Medicine.

The date for the next dual BIOTECHNICA/LABVOLUTION exhibition is set for 16 to 18 May 2017. Deutsche Messe had announced the change in schedule from autumn to spring in the run-up to the current event. The show’s biennial rhythm remains unchanged. The new timeslot is not only more convenient for many firms in the sector, helping them to better orchestrate their sales campaigns for the business year, but also does justice to the high concentration of scientific congresses and related events in the fall months, thus making it far easier for members of the scientific and R&D community to attend. This all adds up to ideal conditions for the future of northern Europe’s unparalleled double-header trade fair for lab technology and bioengineering.

Deutsche Messe AG
D 30521 Hannover

MEDICA and COMPAMED will run over the course of four days in parallel to each other

Preview MEDICA 2015: MEDICA and COMPAMED from 16 – 19 November 2015 with a new set of dates (Monday to Thursday)

**16th - 19th Nov. 2015: MEDICA + COMPAMED,
Düsseldorf (D)**

Being a significant change, from 16 to 19 November Düsseldorf 2015, the world's largest medical trade fair, MEDICA, and the international leading supplier specialist trade fair, COMPAMED, which is taking place at the same time, are going to start. From this year on, both events will run over the course of four days in parallel to each other, being held on the new weekdays from Monday to Thursdays.

“Focusing on the normal working days of the week – instead of Wednesday to Saturday as has been the case up until now – will make it possible in the future to provide better guest distribution of the professional audience across the entire running time,” explained Joachim Schäfer, the managing director of Messe Düsseldorf.

In November, once again, around 4,800 exhibitors from 70 nations will use the MEDICA in order to present the entire range of new products, services and processes for inpatient and outpatient care. No other event worldwide even offers close to this abundance of innovations.

Being clearly structured according to hall, focuses of the MEDICA trade fair include: Electromedicine / medical technology (more than 2,500 exhibitors), laboratory technology / diagnostics, physiotherapy / orthopaedic technology, commodities and consumables, information and communication technology, medical furniture and specialist furnishings, and building technology for hospitals and doctors' offices.

In parallel to this, at the COMPAMED 2015 in halls 8a and 8b, more than 700 exhibitors are going to be presenting their technology solutions and services that suppliers from the medical technology industry have to offer.

The networked patient

Regardless of an overall high orientation for innovation, MEDICA exhibitors currently see themselves facing a market in the state of upheaval. In hospitals, investment decisions are primarily made by medical boards, in which, in addition to doctors, those responsible for commercial aspects also have a heavy say. The latest equipment is only in demand if it truly signifies optimum benefit for patients within the scope of the treatment process. In general, patients are assuming an increasingly active role.

What started as mini-programs for smartphones and fitness armbands has developed into a mega-trend and will considerably shape treatment in the future, for example, following inpatient care at home. More and more physical data, which is becoming relevant on a medical level, can literally be collected, processed and transmitted in the twinkling of an eye. The number of medical apps is rising on an almost daily basis. Experts currently assume that there are around 55,000 such mini-programs.

The trendsetter, MEDICA, with highlights within the supporting Programme

Medical technology providers are taking up such trends. They will present an abundance of innovations to collect and further process various physical data in an uncomplicated manner – as an application for the doctors performing treatment or designed as a way to check vital data from the very beginning in the hands of the patient. Here, the MEDICA is also meeting the requirements of its role as a trendsetter. The MEDICA CONNECTED HEALTHCARE FORUM, which celebrated its highly prestigious premier during the previous year, is now going to be continued. The subject matter under focus will be the networking of various healthcare players as well as patients with related technology solutions (in hall 15). Thereby, mobile health applications form a primary focus, whereby, this year as well, the MEDICA App Competition will be providing exciting ideas with regard to helpful programs for mobile devices.

The MEDICA HEALTH IT FORUM is also reflecting trend topics in the field of Health IT (also in hall 15). Here, telemedicine is the primary focus. For example, the federal education and research minister, Professor Johanna Wanka will use this IT forum on the day of its grand opening to present the new promotional concept for the federal government's medical data technology to a widespread audience of specialists. The objective of the development concept is to improve patient care and research possibilities by means of innovative IT systems.

Other forums integrated into the MEDICA specialist trade fair include the MEDICA TECH FORUM (product innovations in the medical technology industry as well as political, economic and legal framework conditions for high-tech medicine / hall 12) as well as the MEDICA ECON FORUM (hall 15) initiated as a joint effort by Messe Düsseldorf and the „Techniker Krankenkasse“ (TK), a German health insurance company, on issues of benefit assessment and financing innovations – from the perspective of patients and health insurance companies.

Conferences closely associated with the trade fair

Also this year again, the MEDICA EDUCATION CONFERENCE, which is organised by the German Society for Internal Medicine (DGIM), is offering a diverse programme. The four daily topics have been selected in such a way that they result in close integration with the trade fair's medical technological innovations: Surgery and new operational techniques (16/11), imaging, endoscopy and interventions (17/11), geriatrics, nutritional medicine and palliative care (18/11) as well as infectiology, infection and laboratory medicine (19/11).

With reference to the MEDICA conference programme, other highlights include the 38th German Hospital Conference, being a leading event for the management of German hospitals, and the European Hospital Conference, which is the meeting point of top decision-

Preview MEDICA 2015: MEDICA and COMPAMED from 16 – 19 November 2015 with a new set of dates (Monday to Thursday)

makers from European hospitals held every two years, promoting the exchange of information at an expert level. The top speaker at the grand opening of the German Hospital Day (16 November) is the federal health minister, Hermann Gröhe.

The conference for disaster and military medicine, DiMiMED, as well as the MEDICA MEDICINE + SPORTS CONFERENCE (respectively on 17 + 18 November 2015 / Congress Center Düsseldorf South), concerning prevention issues and sports medical treatment concepts must be noted. It has to do with conferences held in the English language that are geared for an international audience.

For high-level representatives from military ranks, MEDICA exhibitors are, for example, offering an abundance of solutions for very special issues – ranging from equipment for emergency treatment, telemedicine applications for the secure transfer of data between vehicles, and military hospitals to a complete array of surgery equipment all the way to customised turnkey building modules.

The same is true of the “bridge building” between the MEDICA

MEDICINE + SPORTS CONFERENCE and the innovations being presented as part of the trade fair. These include wearables and smart-watches for example. Those making a round in hall 15 at the MEDICA, for example, will be quite impressed by the numerous innovations for measuring vital data at the Wearable Technologies show.

The MEDICA PHYSIO CONFERENCE organised by the Thieme Publishing House is also dedicated to trend topics. With presentations, it is directed toward physiotherapists, sports medicine specialists and orthopaedists and is taking place this year on 18 + 19 November / Congress Center Düsseldorf South).

Together with the COMPAMED, taking place at the same time, the MEDICA is occupying the entire Düsseldorf fairground (19 halls).

Dates and opening times: 16 – 19 November; 10 a.m. - 6:30 p.m.

Messe Düsseldorf GmbH
D 40001 Düsseldorf

Fakuma 2015 – B2B in Plastics Technology and More

24th Fakuma with Large Numbers of Exhibitors and Expert Visitors



17th - 21st Oct. 2017: Fakuma, Friedrichshafen (D)

“Innovation platform” or “smart city in plastics”, “business meet with family character” and finally “plastics processing is Fakuma” – these are the words of unanimous praise and the enthusiastic comments of the exhibitors and expert visitors concerning the way things went at the Fakuma international trade fair for plastics processing. The event was held from 13 to 17 October 2015, as usual at the Friedrichshafen Exhibition Centre on Lake Constance, and once again lived up to its reputation as a pulsating global centre for plastics processing! With exactly 1780 exhibitors from 38 countries and overall exhibition floor space amounting to 915,000 square feet, this year’s Fakuma was the global industry event in the non-K years – as has also been the case in the past – and attracted an impressive total of 45,721 expert visitors from 120 countries.

Internationalisation Provides Market Opportunities for All

Where exhibitors as well as expert visitors were concerned, Fakuma was more international than ever and is generating hope within the industry sector that the good business conditions experienced in 2014 and 2015 (4% sale growth for German manufacturers in 2015) will persist in 2016 a well (growth forecast: 2%). Decisive in this respect is fact that the Western European markets are demonstrating stronger than expected development, in particular in Spain, Portugal and Italy, as is also the case in the USA, whereas in South America and Eastern Europe (especially Russia) crucial declines are being registered and the booming growth rates in Southeast Asia are now a thing of the past.

Innovation and Business Platform with Concrete Business Transactions

Not least of all, this leads to a situations in which Asian manufacturers and distributors are venturing out into world markets to an ever greater extent, which explains the increased percentage of Asian

exhibitors at this year’s Fakuma. The established exhibitors – manufacturers and distributors – view the increasing number of competitors unperturbedly in keeping with the maxim: “competition stimulates business” – especially in light of the fact that Fakuma, which is also experiencing strong growth in the number of expert visitors from foreign countries near and far, is evolving more and more into a globally esteemed business platform at which many exhibitors report having conducted concrete business transactions. On the one hand, this is no longer normal in contrast to the past, and on the other hand it can be seen as an indication of the internationally highly-regarded quality (i.e. propensity to invest) of the expert visitors.

Quality and Quantity in all Segments

And thus the exhibitors are very satisfied with the visitor numbers, praise the quantity and above all the quality of the meetings and RFQs, and indicate that to a given degree the high expectations have even been exceeded. The same applies to the active participants and speakers at the Fakuma exhibitor forum, which was able to book record-breaking participation in 2015 with 37 presentations. Right from the very beginning on Tuesday the 13th, all the way up to the end on Friday the 16th of October, the forum in the east foyer was very well frequented and in the end, the forum organisation reported an impressive 920 expert visitors. With its inspiring (record-breaking) figures where exhibitor numbers, exhibition floor space, expert visitor numbers and forum participants are concerned, the Fakuma international trade fair for plastics processing will now take a timeout and clear the path for the 2016 edition of K in Düsseldorf – on exceptionally good terms by the way. The next Fakuma will take place once again at the Friedrichshafen Exhibition Centre where Germany, Austria, Switzerland and Liechtenstein meet from the 17th through the 21st of October, 2017.

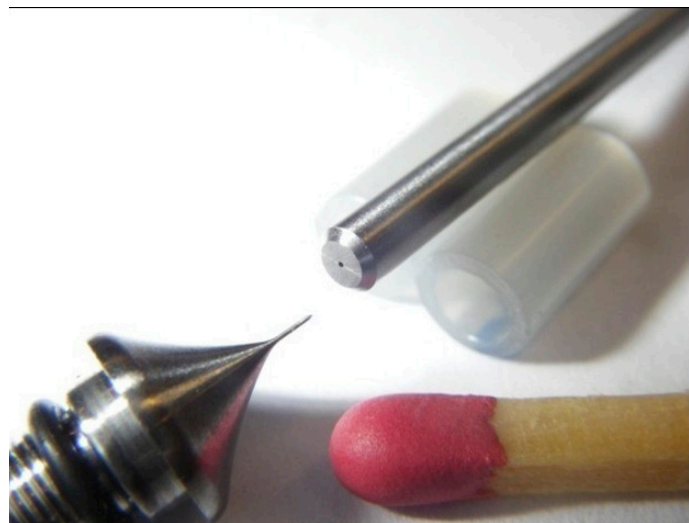
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Gerresheimer at Compamed: micro injection molding for precision manufacturing of miniaturized devices

Small components – big challenge



Gerresheimer manufactures a comprehensive range of glass and plastic pharmaceutical primary packaging products like syringes (glass or plastics) and insulin cartridges and drug delivery systems, including auto-injectors, asthma inhalers and insulin pens, for many reputed companies in the pharmaceutical industry. At Compamed 2015 from November 16 to 19 the company will be showcasing its products and services on Stand G31 in Hall 8b.



Injection molding solutions for extremely small volumes

Conventional injection molding machines aren't suitable for the small shot volumes involved in micro injection molding. Long holding times in the plasticizing unit and in the tool's hot runner system can result in material shrinkage. Also, it is difficult to achieve the necessary precision and reproducibility of the screw's forward movement during the injection phase, and feeding accuracy is more important due to the back flow check valve.

Gerresheimer overcomes these challenges in two ways. With multi-cavity molds and optimized injection molding machines with special screws and back flow. The advantages of production with suitably optimized standard injection molding machines is particularly evident when large quantities are manufactured. Gerresheimer uses multi-cavity molds in all-electric standard injection molding machines with modified plasticizer units for micro injection molding.

Measuring technology for validation and process control

Gerresheimer has a computed tomography system at their Technical Competence Center in Wackerdorf (Germany). The company uses a special technique to measure micro injection molded parts which securely fixes even the tiniest of objects in place during the measurement and makes it possible to precisely map the difference in density between the object and the supporting structure. False color plots then permit the fast analysis of the measurement results.

16th - 19th Nov. 2015: COMPAMED, Düsseldorf (D)

Miniaturization – the trend in medical engineering

Medical device components are getting continuously smaller as requirements of precision increase. There is no binding definition on what constitutes a micro injection molded part, but Gerresheimer's definition is a part with any single dimension of less than 1 mm, a weight of less than 0.3 g and a tolerance of less than 30µm. Conventional injection molding isn't suitable for the production of these miniature parts, to a great extent because a reduction in a component's length of 50 percent means exponential changes to other properties such as surface area, volume and thermal conductivity. Gerresheimer has special micro injection molding systems that can manufacture extremely small parts precisely and cost effectively. Micro injection molding is associated with challenges relating to tool engineering, injection molding technology and measuring technology. The necessary technology is already available in the market and Gerresheimer is collaborating closely with a network of partners in science and industry to extend their micro injection molding knowledge base.

Mold engineering – for reproducible high precision mold inserts

Extremely precise molds are indispensable to manufacturing top quality micro injection molded parts. For example, if the component's tolerance is less than 30µm, the mold tolerance has to be less than 10µm. That's why Gerresheimer's engineers use special machinery designed for this specific purpose.

Gerresheimer AG D 40468 Düsseldorf



Mobile alternative to floor or wall mounting of HMI systems according to GMP conditions

The TROLLEY concept

Machines and installations in production facilities are always being optimized or adapted to new working conditions. Such conversion work makes it necessary to re-organize the entire set-up. Being mounted on rollers, the TROLLEY workstation can be moved around as required in the production environment. And stability is never a problem thanks to the robust and sturdy design of the TROLLEY system.



Figure 2: TROLLEY LIGHT



Figure 3: TROLLEY MAXI

The mobile workstation is made entirely of stainless steel in line with GMP-IT guidelines and satisfies the highest standards in the pharmaceutical, foodstuffs and cosmetics sector. It is suitable for use in hygienic production environments, under GMP conditions and in cleanrooms.

The HMI systems of the WAVE and PILOT series are compatible with the various TROLLEY versions and permit individual combination. All TROLLEY systems can be optionally configured with a battery and WLAN for wireless use and additionally equipped with a bar code scanner.

The TROLLEY LIGHT, which can be fitted with a 5-arm base, a 3-arm base or a trapezoid stand, is an attractive, highly compact and outstandingly mobile workstation.

The TROLLEY COMPACT or COMPACT PLUS not only has a spacious front drawer with plenty of room for documents and working utensils, it also permits the integration

of a Notebook and a label printer.

Another alternative is the TROLLEY MAXI in hygienic design for customized configuration. The complete mobile system provides easy installation for peripherals.



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Figure 1: The TROLLEY concept

Highly Accurate Outdoor Measurement

Humidity and Temperature Transmitter for Demanding Meteorological Applications



EE33-M is the newest addition to the well proven EE33 transmitter series for relative humidity (RH) and temperature (T). The heated RH sensor, the additional heating of the RH sensing probe and a separate T probe ensure highly accurate outdoor measurements even under condensation conditions. A special coating protects the RH sensor against pollution. Together with a radiation shield, EE33-M is ideal for high-end meteorology applications.



Figure 1: The new EE33-M humidity and temperature transmitter is ideal for demanding meteorological applications. (Photo: E+E Elektronik GmbH)

The heart of EE33-M is the innovative, monolithic HMC01 sensor, developed and manufactured in thin-film technology by E+E Elektronik. HMC01 combines the RH sensor and heating resistor on a single substrate. A dual heating system prevents condensation on the RH sensor, on the sensing probe and on the filter cap, which leads to extremely short response time and fast recovery after condensing conditions. The measuring principle with separate RH and T probes enables precise continuous measurement even at permanent high humidity. The proprietary E+E coating protects the RH sensor element and its leads against corrosive and electrically conductive pollution.

A radiation shield is essential for best performance outdoors. The sensing probes of EE33M match modern radiation shields with forced ventilation such as LAM630.

EE33-M calculates all RH and T related parameters such as dew point temperature, absolute humidity, and mixing ratio. An optional connection cable allows for easy adjustment and configuration of the transmitter. The optional RS485 interface enables a network of up to 32 transmitters.



Figure 2: EE33-M humidity and temperature transmitter with radiation shield LAM630. (Photo: E+E Elektronik GmbH)

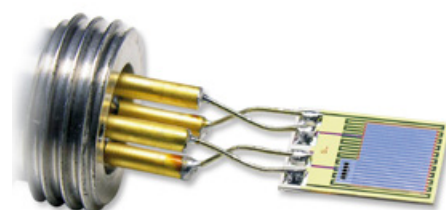


Figure 3: Core of the EE33-M is the heated, monolithic HMC01 RH/T sensor. (Photo: E+E Elektronik GmbH)



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Total pressure measurement equipment from Pfeiffer Vacuum expands to include a new addition

CenterLine analog total pressure measurement equipment by Pfeiffer Vacuum.



Many vacuum applications only operate in a certain pressure range. In order to operate vacuum systems with high precision, the total pressure must be measured reliably. For this purpose, Pfeiffer Vacuum offers a range of different measurement equipment series with a digital or analog signal output, which is now being expanded with the addition of the CenterLine series.

DigiLine, ActiveLine and ModulLine

With the DigiLine series, thanks to the modular design of the signal output, the user can choose digital interfaces to suit the particular requirement. All gauges feature an RS-485 interface. Optional Profibus DP and DeviceNet interfaces are also available. This allows users to operate DigiLine gauges in large systems within a communication network. An interface known as an AR interface (analog output with relay) provides additional possibilities. The protection class IP54 and M12 connectors qualify these gauges for use in applications with harsh environments. Furthermore, the gauges can be operated with the accessories from the current HiPace turbopump series in a communication network.

The ActiveLine only has an analog output. This compact series provides the largest selection of measuring principles in the Pfeiffer Vacuum range. In this way, it allows total pressure measurement in the ultra-high vacuum range right up to the overpressure range. The user can combine the gauges with 1, 2 and 6-channel controllers.

The vacuum gauges in the ModulLine series do not contain any electronics. They are suitable for use in places with high radiation exposure, such as in medical technology and in particle accelerators.

New analog measurement equipment in the CenterLine series

Just as in the existing ActiveLine series, the CenterLine series also comes with an analog output. Thanks to its compact design, it allows space-saving installation in vacuum process systems, analytical instruments, leak detectors and numerous other applications. Instead of using the Hirschmann connector as in the ActiveLine series, the gauges in the CenterLine series are either equipped with an 8-pin FCC connector or a 15-pin D-sub connector. These connectors are widely used in industry, which makes their integration into existing systems easier for the customer. The customers can choose between a variety of measuring principles for ultra-high vacuum up to atmospheric pressure.

CenterLine uses state-of-the-art controllers. They allow communication via USB and Ethernet interfaces, and the brilliant LCD screen makes it easier to read the measured value. The gauges are automatically detected by the controller, which makes for safe and easy installation. In addition to the analog output, some gauges have set points for better process control.

Also worthy of special mention is the FullRange® gauge PTR 91. This gauge reduces the magnetic field of the cold cathode that is present due to the inherent principle involved, to a minimum. The innovative design of the measuring chambers extends its service life considerably. A removable dual chamber ensures easy and cost-effective maintenance, which can easily be performed by the user.

Pfeiffer Vacuum GmbH
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PharmaLab Kongress 2015

PharmaLab-Kongress

Analytik, Bioanalytik und Mikrobiologie
- Kongress & Fachmesse -
Swissotel, Düsseldorf,
10.-11. November 2015



For the third time already PharmaLab picks up the latest regulatory and scientific changes and developments in all laboratory areas of the pharmaceutical industry. International and national analytical, bioanalytical and microbiology conferences provide a selection of top-class lectures. In addition PharmaLab is accompanied by an exhibition, in which suppliers of laboratory materials, equipment as well as contract laboratories present their current products and method developments as services.

Target Lab Compliance - PHARMALAB on 10-11 November, 2015, Swissotel Congress Centrum, Düsseldorf / Neuss

Currently the European Pharmacopoeia Chapters 2.6.30 (Monocyte Activation Test), 2.6.8 (Pyrogens) and 5.1.10 (Guidelines for using the Test for Bacterial Endotoxins) are under revision. Naturally, a conference will pick up these developments and deal again with the test for Endotoxins and Pyrogens.

A subject that has not lost any relevance is the masking of endotoxins and Low Endotoxin Recovery (LER) and the current strategies to deal with this effect – reason enough to dedicate some special attention to this subject.

Pharmeuropa recently issued the draft of the revised Ph.Eur. Chapter 5.1.1 on „Modern Microbiological Methods“. New at PharmaLab is therefore the Rapid Microbiological Methods Conference, providing first-hand information on the state of the revision and the revised requirements.

Another challenge in the field of microbiological testing is the evidence of so-called adventitious agents such as Mycoplasma and Viruses. A further „newcomer“ will hence cover the authorities' requirements on the one hand and the currently available detection methods on the other.

A session on the validation of bioanalytical methods with statistical means will specifically deal with the type of studies that are needed. It will also concentrate on the statistical analyses that are necessary for the calculation of the bioactivity and which provide clues for the assessment of the validation parameters.

A known conference subject is „Laboratory Informatics“ where relevant systems such as LIMS or ELNs will be discussed. In the centre will be laboratory data systems and how they can be implemented

in today's QC and R & D environments as well as the integrity of the data produced in the lab.

The most recent regulatory developments and compliance aspects will be the focus of the eponymous conference „cGMP compliance trends in analytical quality control“.

In addition to these conferences national sessions will provide comprehensive updates on Bioanalytics, Leachables and Extractables, Lab Optimisation and Pharmaceutical Analytics.

Laboratory compliance is a vast field providing plenty of subjects we could have chosen for PharmaLab 2015. We are certain we picked those subjects that are most up-to-date and are highly relevant in your day-to-day business. Together with the exhibition specifically designed for all suppliers in the laboratory environment PharmaLab 2015 will provide you again with a valuable learning and networking experience. We look forward to seeing you there.

Highlights

- 10 November Prof Dr Jack Levin: The LAL Test for Bacterial Endotoxins: Discovery, Development and Applications.
- 11 November Frans Maris: Regulations on Heavy Metals: Update on the status of USP, FDA and ICH Guidelines and path forward at MSD.

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