gnews update 36

customer newsletter, november 2022

CPHI

CPHI Frankfurt

November 1–3, 2022
Frankfurt, Germany
Hall 3, booth 30B21

EZ-fillsmart™
Making your life easier

Agenda

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gerresheimer
innovating for a better life

New EZ-fill Smart™ packaging platform with significant improvements

Gerresheimer is presenting the new and innovative ready-to-fill vial platform, EZ-fill Smart™, a solution designed to improve drug packaging quality, reduce Total Cost of Ownership (TCO), and shorten lead times for customers. The new EZ-fill Smart™ is an evolution of the standard EZ-fill platform, and it brings new advancements that drive appreciable improvements for customers amid growing demand for ready-to-fill vials.

The EZ-fill Smart™ platform leverages increased automation throughout the manufacturing flow to increase productivity and reduce human errors. The optimized platform features no glass-to-glass and no glass-to-metal contact which improves quality and integrity of the vials throughout the product life cycle. The redesigned secondary packaging has yielded a significant reduction of particle risks during customers' operations, delivering substantially improved quality.

The new EZ-fill Smart™ now offers the market an alternative sterilization method that is safe and more environmentally friendly compared to traditional Ethylene Oxide (EtO) sterilization. Intended to be perfectly suited for primary packaging solutions in use with highly sensitive drugs, it also incorporates guidelines given by regulatory bodies supporting the current direction to replace EtO sterilization.

EZ-fill Smart™ pursues combined sustainability approaches by increasing the packaging efficiency, the implementation of a new eco-friendly sterilization method, and the use of biopolymers and recycled plastic.

Developed in close cooperation with major machine vendors, EZ-fill Smart™ ensures a proven seamless integration with standard fill & finish operations. The platform also accommodates both small and large batch production. The implemented advancements guarantee the processability on filling lines with the primary aim to facilitate the complete automation of the in-feeding process.

Along with the nest & tub configuration, EZ-fill Smart™ will also be available in tray configuration to support and accelerate the conversion from bulk to Gx® RTF vials that is already underway in the market.

The newly designed EZ-fill Smart™ packaging platform from Gerresheimer and Stevanato will share the same secondary packaging, production process and sterilization method, ensuring a consistent product availability and a risk-free, reliable supply chain.

De-risking of fill & finish →

Risk-free processing and seamless integration into standard fill & finish lines from all major machine vendors

Lower particles – improved quality →

>90% particle reduction* creating a new gold standard for the benefit of the patient

*Verified by internal testing and external certified laboratory

Supply chain security →

Risk mitigation through like-for-like standard of two leading global manufacturers

← Reduced CO_2 footprint

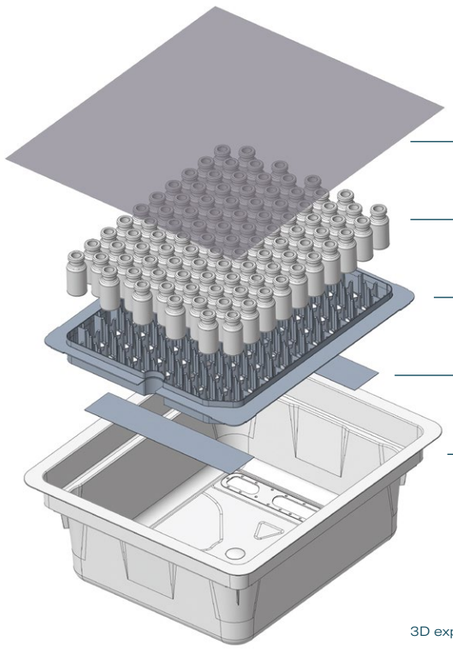
Use of biopolymers and re-usable materials, weight reduction, Gx® RTF vials produced with green energy

← Alternative sterilization

Safe and more environmentally friendly method for sterilization of complete system incorporating guidelines given by regulatory bodies

← Reduced TCO

Reduced cost and investment driven by smaller machine footprint due to centralized processing of washing/depyrogenization



3D explosion for illustration purposes only; dimensions and details may vary

Component	Material	Properties / Feature
Transparent Polymer Film	**Clear PET-PE**	– Contributes to sterility assurance providing hermetic seal to package – Easy detachable by peeling mechanisms – Minimized particulate load while opening – Allows an unprecedented first view of the vials inside
Vial 2R to 20R	**Glass Type I**	– Primary container for all types of drugs – Other vial sizes on request – Clean & sterile – Ready-to-fill – Wide range of quality attributes according to chemical and pharmaceutical needs
Nest	**Polypropylene**	– Vial holding structure – Guarantees no glass to glass contact – Standardized design for existing fill & finish lines
Fixed Tyvek stripes	**HDPE 1073B**	– Permeable barrier for gas penetration, to allow sterilization by several methods – Provides hermetic sterility sealing, closure integrity – Position aligned with machine supplier to allow easy use with existing fill & finish and handling equipment – No removal needed
Tub	**Polystyrene**	– Primary product safe environment – 3 inch tub for all vial sizes and future cartridges including snap-fit closure solutions – Structure and density provider – Holds permeable Tyvek barrier for gas sterilization
Boxes	**Polypropylene**	– Safeguard packages for handling and transportation – Allow for terminal sterilization by EtO (ethylene oxide) or VHP (vaporized hydrogen peroxide)
Sterilization	**EtO, VHP**	– Terminal sterility of product to assure SAL – Proved sterility according ISO norms

*Tyvek is a registered trademark of the DuPont company.

Electronically controlled medtech systems from a single source

Gerresheimer and Zollner enter into a strategic partnership

Gerresheimer AG and Zollner Elektronik AG are pooling their market-leading pharmaceutical and medical technology expertise under a strategic partnership. Starting immediately, we will offer pharmaceutical, healthcare and biotech companies our conceptual design, development and manufacturing capacities for drug delivery and medical technology systems, including complete electronics, from one single source. Gerresheimer serves as the central point of contact for customers. The market-leading partners combine the expertise of Gerresheimer in innovative devices for the administration of medicines and medical technology systems with the globally established electronics expertise of Zollner.

With this strategic partnership, Gerresheimer and Zollner are counting on the global trend toward electronic, digitally controllable and connected drug delivery and diagnostic systems. These include insulin pens, inhalators, like for people suffering with asthma, Point-of-Care systems and medicine pumps. The demand for medical and pharmaceutical devices with electronic components mostly for the treatment of chronic illnesses will significantly increase in coming years.

“The future belongs to digital treatment support with electronic systems and connected platforms,” said Dietmar Siemssen, CEO of Gerresheimer AG. “The partnership with Zollner helps us to provide our pharma customers with innovative one-stop medtech solutions. For patients, using these solutions means better treatment and enhanced quality of life. At the same time, the healthcare system also benefits by way of permanently reduced treatment costs.”

Gerresheimer and Zollner have collected much cooperation experience in numerous projects. The electronics specialist Zollner already supplies us with components and assemblies for medicine pumps in Parkinson’s therapy.

Through the integration of concept design, development and manufacturing, the products of both sides can be brought to market faster and more efficiently. Also gained is permanent, secure access to electronic components. The cooperation initially covers the development of inhalers for chronic lung disease sufferers, autoinjectors, ophthalmology systems and drug pumps, as well as contract manufacturing for these and similar devices.

We already boast a portfolio of electronically controlled devices and solutions based on our own intellectual property, including the iQhaler (see picture above) and the Gx® SensAir pump. The strategic partnership with Zollner will contribute to the significant expansion of that portfolio.

This partnership also supports the sustainability strategies of both companies. For instance, we have agreed on a technology exchange enabling the development of even more efficient production processes – including with the use of artificial intelligence – to minimize waste and rejects.

“The future belongs to digital treatment support with electronic systems and connected platforms,”

said Dietmar Siemssen CEO of Gerresheimer AG.

Dietmar Siemssen, CEO of Gerresheimer AG (l.) and Markus Aschenbrenner, Member of the Managing Board, at the signing of the partner agreement.

Revolutionizing treatment of Parkinson's disease

Gerresheimer partners with MedTech start-up Adamant Health

Gerresheimer AG and the Finnish MedTech start-up Adamant Health Oy partner up to develop a life-changing solution for millions of people worldwide suffering from Parkinson's disease. The measuring technology and platform in development will address one of the biggest impediments in treating symptoms of Parkinson's: determining the optimal time to take symptom suppressing medication. In the future, Adamant Health's measurement and analysis technology and Gerresheimer's digital platform solution will help to determine the exact right moment for drug administration and inform patients as well as medical staff about the patient's treatment and symptom development. The advantage for patients: The symptoms become much more stable and predictable. This allows them to live their everyday lives in a more independent, safe and satisfying way.

"Our common goal is to optimize the treatment of Parkinson's and to improve the patient's quality of life dramatically," said Dietmar Siemssen, CEO Gerresheimer AG. "The investment is part of our strategic expansion into personalized drug delivery devices combined with platform-based and digital disease monitoring. It will also complement our high value solution offering for clients as defined in our strategy process formula G", he added.

Parkinson's disease is a progressive nervous system disorder and causes reoccurring tremors, stiffness and slowing of movement. While it currently is incurable, medication can significantly alleviate symptoms. The disease affects approximately 10 million patients worldwide.

"We are expecting the number of people with Parkinson's to more than double within the next 30 years," said Paulus Carpelan, CEO Adamant Health Oy. "Our measurement and analysis service with its unique technologies aim to help individualizing therapies and consequently to improve patients' quality of life significantly," he added.

Parkinson's disease ...

is caused by the death of certain nerve cells in the brain. This leads to a deficiency of the neurotransmitter dopamine. Among other things, dopamine plays a major role in controlling muscle function – and thus movement. The aim of drug treatment is to normalize the concentration of this neurotransmitter. To achieve this, the medication must be precisely set and adjusted at regular intervals. This is made possible by micropumps such as our D-Mine pump.

By partnering up, Gerresheimer and Adamant Health fill a gap in the therapy of Parkinson's patients. A combination of monitoring and personalized adjustment of medication is a novelty. In the field of monitoring of the neurodegenerative chronic disease, Adamant Health already holds a unique position: The current technologies used in monitoring disease progression only collect patient's physical movement data. The sensor used in Adamant Health's solution links this function with technology called surface electromyography (EMG), i.e., the local measurement of electrical neuromuscular activity.

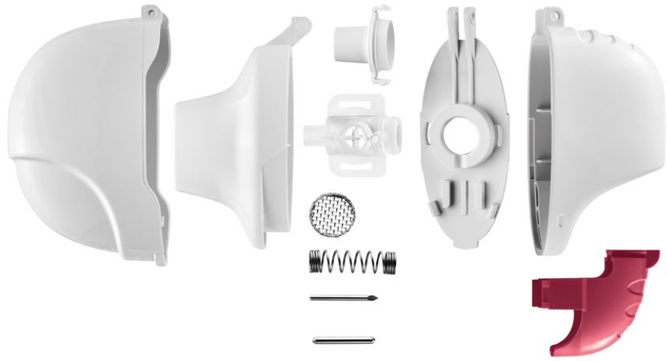
A new DPI device for the generic drugs market

MERXIN and Gerresheimer worked successfully together to realize the shortest possible time-to-market for the MERXIN MRX003 Capsule DPI

Gerresheimer has assumed responsibility for the industrialization of a dry powder inhaler for the treatment of respiratory ailments for MERXIN (United Kingdom), a company that specializes in making inhaler devices. The inhaler is produced in Pfreimd (Germany) for worldwide distribution. Beyond the technically sophisticated industrialization of the product, the main challenge of the project was to coordinate an optimal development process aimed at ensuring the shortest possible time to market at the lowest cost.

MERXIN MRX003 capsule dry powder inhaler is used for pulmonary delivery and in particular for the treatment of chronic, obstructive pulmonary diseases (COPD) and asthma. The API is aerosolized and distributed with the respiratory system to find its way deep into the lungs of the patient. The correct interplay of inhaler and formulation plays a decisive role in the success of the treatment.

The first product target for MRX003 was a generic version of an API. Because of the nature of the generic market, it was of essential to achieve the shortest possible time to launch. This was achieved through a close cooperation between the partners. Decades of expertise and know-how in inhaler design and production were combined between MERXIN and us. Jochen Wegerer (Program Manager, Gerresheimer Regensburg GmbH, Wackersdorf) was impressed by the cooperation: "The good teamwork within the project is noteworthy. Challenges were always discussed in a goal-oriented, creative, and open manner, so that approaches to solutions could be formulated and implemented within the shortest time possible."



MRX003 is assembled from a total of 12 parts, meaning seven injection molding parts of ABS or MABS (base element, capsule housing, hinge plate, button, mouthpiece, filter housing, sealing cap) as well as five stainless steel bought-in components (two lancets, spring, cylinder pin, and fine filter unit). A pouch is used for the packaging of the finished product. For the BICs, we selected suppliers who are capable of fulfilling sophisticated quality. The injection molding parts are produced at our location in Pfreimd in multi-cavity tools. The fully automated assembly and gap-free testing of each individual inhaler takes place at three round table stations.

The design of the manufacturing process of MRX003, had to deliver high product quality with the most stable, fully automated processes possible and to enable affordable production for the generic drugs market. "With the help of our DMF package, we were able to create, implement, and qualify the molds to be very robust," Richard Gradl (Mold Engineer, Gerresheimer Regensburg GmbH, Wackersdorf) explains. "The stable component quality and high process capability of the molds ensure good conditions in the series production environment." Our risk management approach was based on procedures that were tailored to the special features of the project, from qualification and validation to long-term production security, as highlighted by Tobias Bernklau (Global Head of Quality Engineering, Gerresheimer Regensburg GmbH, Wackersdorf): "The focus is always on the user for all decisions. For critical areas and functions, we deliberately invest more effort than for less critical areas and functions."

ISR signs agreement with Gerresheimer

Clinical-scale production of IcoOne nasal inhalers

The drug development company ISR (Immune System Regulation Holding AB) has signed an agreement with us for large-scale production of the IcoOne nasal inhaler, for its phase III study of its dry powder Covid-19 vaccine.
“We have signed a very important agreement to be able to produce large enough quantities of our game-changing inhaler, to cover the needs of our late-stage development studies and our pivotal phase III program. This agreement also opens the door for further collaborations with Gerresheimer, to produce sufficient quantities of our inhaler to secure our commercial supply chain and the global launch of our exciting dry powder SARS-CoV-2 vaccine,” comments Ola Winqvist, CEO of ISR. “We are happy and delighted to support ISR with our high expertise in the development, industrialization and manufacturing of drug delivery devices. With our annual production of more than 100 million inhalers we are the ideal partner for ISR,” says Manfred Baumann, Global Executive Vice President Sales & Marketing, Administration & TCC, Gerresheimer Medical Systems.

ISR is now entering a new phase and securing the long-term partners needed to produce its vaccine for phase III and the market. For the phase III trial, we are now running the design for manufacturing, mold making and manufacturing the nasal inhaler.

From our plants

New multi-fuel oxygen furnace at Gerresheimer Tettau

Focus on sustainable glass

As part of its global sustainability strategy, the Gerresheimer Group has set itself the goal of reducing its CO_2 emissions by 50% until 2030 compared with 2019. An important component of this endeavor is the use of state-of-the-art furnace technology in container glass production. Recently, we replaced one of two furnaces at the German plant in Tettau, Bavaria.

"Against the backdrop of the current economic and geopolitical situation, Gerresheimer is sending a strong signal for a successful future with this investment in more sustainable technology. We believe in glass as a future-oriented packaging solution and are committed to the expansion of the Tettau plant," explains Kay Rohn, Managing Director of Gerresheimer Tettau.

At the Tettau plant Gerresheimer employs around 600 people and produces over 700 million glass containers a year. With the new multi-fuel oxygen furnace, Gerresheimer is laying the foundation for more sustainability in glass production. In particular, the use of green electricity, which in future will account for up to 50% of the energy input, will make a significant contribution to reducing the CO_2 footprint in container glass production.

Glass can be recycled an infinite number of times and is therefore an attractive material in the context of a sustainable packaging economy. This also includes the increased use of post-consumer recycled (PCR) glass and eco-design concepts.

Gerresheimer invests up to 94 million Dollar in US production facility

Supported by U.S. BARDA via 70/30 cost-share cooperative agreement

Gerresheimer announced investments to rapidly expand its manufacturing, supply and logistics capability for glass vials in the U.S. The project will be supported by the Biomedical Advanced Research and Development Authority (BARDA), part of the Office of the Assistant Secretary for Preparedness and Response (ASPR) at the U.S. Department of Health and Human Services (HHS) with contracting support from the Department of Defense (DOD). It will expand Gerresheimer’s capacity by new vial forming lines, including dimensional inspection, annealing, cosmetic inspection and packaging. BARDA has agreed to provide up to approximately 66 million US-Dollar to Gerresheimer AG for this project. The investment is part of our global expansion plan and follows our formula G strategy process.

Under the agreement, we will increase our annual production capacity of Type 1 vials and Gx® Elite glass vials at our Morganton plant in North Carolina. BARDA’s financing, with contracting support from the DOD’s Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense (JPEO-CBRND) and the Army Contracting Command (ACC), will strengthen the capabilities in the U.S. to respond to current and future public health emergencies. The vials can be used in vaccination campaigns against infectious diseases, such as COVID-19 and others. The expansion of the facility will further strengthen our leading market position in best-in-class Gx® Elite vials.

"Gerresheimer is honored to support the U.S. government in strengthening its pharmaceutical supply chain for current and future healthcare emergencies," said Dietmar Siemssen, CEO of Gerresheimer AG. "The agreement confirms our role as a supplier of system critical products, such as pharmaceutical primary packaging solutions and drug delivery systems for the healthcare sector. This investment follows our strategy process formula G and accelerates our growth in this important market," he added.

As part of the project, the existing facility in North Carolina will be enlarged by the installation of new vial forming lines and a new warehouse. As the investment will lead to an increase in the number of people employed, new offices will also be part of the expansion plan.

The company is committed to sourcing the vast majority of its raw materials from U.S. domestic suppliers in order to enhance the levels of responsiveness, dependability, quality and domestic supply chain integration. Gerresheimer is furthermore incorporating sustainable design principles to implement energy efficiency measures, comply with storm water management requirements and reduce waste for the upgrades and expansion.

New state-of-the-art facilities in India

Gerresheimer boosts global production capabilities

The Gerresheimer management at the celebratory event in Kosamba (fltr) Ravikumar Ummadisingu, Khasim Saheb, Stefan Rieder, Andreas Kohl, Volker Rekowski, Jari Tevajarvi and Niels Düring.

Gerresheimer has significantly ramped up its glass and plastic production capacities in India. A new modern plant to produce high quality plastic containers and closures was built at the Kosamba site, and glass production received a new state-of-the-art sustainable furnace technology. Both innovations were ceremonially commissioned by the management.

By adding capacities in India, we intend to ensure consistent supply for critical pharma and healthcare facilities supporting increased packaging demand and public health. Gerresheimer already operates production facilities in India, including Triveni and Neutral Glass, which the company acquired in 2012. The four highly specialized Indian plants belong to our worldwide production network. The plants are equipped with high technology manufacturing processes for the production of pharmaceutical primary packaging made of plastic, moulded and tubular glass.

> **“These new investments enable us to serve our customers now locally with combined product solutions across all Gerresheimer divisions. We have special expectations for revenue growth in India, with more capacity we are closer to reaching our goals", said Niels Düring, Global Executive Vice President Plastic Packaging.**

We have installed the latest Type I borosilicate melting furnace for flint and amber glass production using cross-fired oxygen technology and an increased portion of electric heating to melt our new Barium free type I glass formulation. The furnace is equipped with newest production machines also having most sensitive inspection equipment following our moulded glass production standards. “With this technology, we will substantially enhance our product quality and address additional market segments”, said Stefan Rieder, Global Senior Vice President Commercial Moulded Glass.

We ensure full conformity of our products and follow the European pharmacopoeia, the United States pharmacopeia and meet YBB requirements for China and FDA registration with a Drug Master File as the standard. The production operations are carried out in clean rooms. We apply the rules of Good Manufacturing Practice (GMP) and are classified in accordance with ISO standards.

Gerresheimer Boleslawiec S.A. celebrates its 70th anniversary

On August 27, Gerresheimer Boleslawiec S.A. celebrated its 70th anniversary in Poland. Founded in 1952, the industrial plant called "Polfa" produced glass vials and ampoules. In 1997 "Polfa" was acquired by the Gerresheimer Group and renamed Gerresheimer Boleslawiec S.A.

“Gerresheimer Boleslawiec has been through a fantastic development over the last 25 years and today we are representing a state-of-the-art production facility. We have established a fundament for export and globalization of our products which is highly appreciated by our international customers”, says Niels Düring, Global Executive Vice President.

“We are very proud of our development and with an outstanding team of hard-working and professionally experienced employees we have succeeded in further growing the business”, says Marek Miszczak, Plant Director Gerresheimer Boleslawiec S.A.

Today, the plastic division develops and manufactures bottles and vials for ophthalmic, nasal, and parenteral applications. The products for ophthalmic

and nasal applications include bottles and droppers/nozzles, caps and nasal sprays with pump systems. Different materials, sizes and designs are available, as are closures with child-resistant and senior-friendly features. The monolayer polymer vials are based on COP for sensitive drug products.

The glass division is developing and manufacturing from tubular glass type I clear & amber, type II amber and type III clear. The product range includes ampoules, vials and cartridges, which can be delivered both printed and unprinted, as well as samplers and droppers.

The productions are carried out in clean rooms class 7 for plastics and clean rooms class 8 for glass. They apply the rules of GMP and are certified in accordance with ISO standards.

Innovative Gx SensAir® platform for highly viscous biologics

With Gx SensAir®, Gerresheimer presents an innovative platform for on-body delivery of drugs with higher viscosity, such as monoclonal antibodies (mAb). The aim is to provide patients with the best possible support in the subcutaneous delivery of large-volume biologics. The easy-to-use Gx SensAir® On-Body Drug Delivery Device enables patients to start medication in a self-determined manner in familiar surroundings, for example at home. The Gx SensAir® On-Body Drug Delivery Device can be adapted to medications of different viscosities and with different requirements. This applies to the size of the medical device as well as to the needle used, variable cartridge sizes and possible connectivity, for example to the patient's smartphone. Together with our One-Stop-Shop quality promise, which includes a solution from the cartridge to the drug delivery device from a single source, Gx SensAir® enables optimized delivery of biologics.

Gx Inbeneo™ – first own Gerresheimer autoinjector

Our new autoinjector Gx Inbeneo™ offers new opportunities in the treatment of various diseases. It is suitable for subcutaneous injection with up to 3ml volume. The patient-friendly, robust cartridge-based autoinjector will serve as a flexible platform for a range of different products in a variety of therapeutic areas. These include highly viscous formulations of biological APIs like new biological entities and biosimilars.

With this autoinjector development – based on proprietary IP – we enhance our existing broad portfolio of medical devices such as various on-body injector solutions and wearable injector systems.

Gx InnoSafe® syringe with passive needle protection system

Nurses are among the occupational groups with the most frequent cuts and puncture wounds. This can lead to infection with dangerous pathogens such as hepatitis B and C viruses or HIV. The Gx InnoSafe® safety syringe is the first syringe with an integrated passive safety system. The function of this solution is to prevent accidental injury to an already used syringe by an unintentional needle stick, because the needle is fixed in a sleeve immediately after use. In addition to these unique safety features, a special feature of the Gx InnoSafe® syringe is that it can be processed on all existing filling lines without any additional preparation or assembly steps. Furthermore, it complies with all regulations without any additional investment.

Improved sterilization of Gx RTF® syringes

With our sterile Gx RTF® syringes, we are regarded as the technology leader with more than 20 years of production experience. We wash, siliconize, assemble with needle shield or tip cap and sterilize Gx RTF® syringes with ethylene oxide (EtO), which means that they are delivered completely prepared for aseptic filling. Together with our service provider, a global leader in outsourced sterilization services, we are working on an innovative solution that will reduce the use of ethylene oxide by around 45% and thus reduce fugitive emissions of ethylene oxide.

The benefits of reduced ethylene oxide use at a glance:

- Continued safe use of ethylene oxide as the most widely used sterilization method for primary glass packaging.
- Maintaining specified residual ethylene oxide while reducing fugitive emissions and excess residuals
- Reduction of required aeration times and thus resulting in improved customer supply chain efficiencies
- Reduction of the CO_2 footprint

DropControl – Gerresheimer's solution for new ophthalmic formulations

The new generation of eye drop solutions has modified properties compared to the former water-based eye-drop solutions to improve the pharmaceutical effectiveness. The function of the eye-dropper therefore required a modification to prevent uncontrolled dropping when the patient turns the eye-dropper to release the droplets. "With DropControl Gerresheimer offers a solution to enable the use of conventional eye dropper systems for the new eye drop solutions with very low viscosity", says Niels Düring, Global Executive Vice President at Gerresheimer Plastic Packaging.

With DropControl the patient can apply the eye-drops as usual. The outer shape is unchanged, we just developed an insert which prevents the uncontrolled release of droplets. It is suitable for all Gerresheimer's A, E and F dropper bottle systems in 5, 10, 15 and 30 ml.

Siliconization for moulded glass packaging

We have established a siliconization process of the inner glass surface for volumes from 5 to 500 ml for clear and amber containers of hydrolytic classes I, II and III. Siliconization creates a hydrophobic silicone film that improves residual emptying of the filled medicine. This enables almost one hundred percent utilisation of the filling volume and optimal dosing of the medication. The silicone coating also forms a protective barrier between the medicine and the glass surface, ensuring that the medicine is additionally protected over its life cycle. This will help you to maximize the value of your pharmaceutical product and keep your patients safe.

Below we present trade publications and white papers in which our experts comment on key topics and trends in the field of pharmaceutical packaging and drug delivery devices.

Whitepapers

Silicone-oil-free prefilled syringe systems

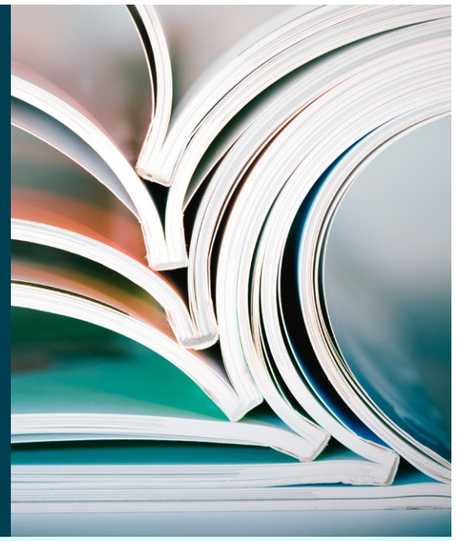
Pharm. Ind., No. 8 (2022), pp 1021-1029.
HomePage (ecv.de)

In this article, Bernd Zeiss, Head of Global Pharmaceutical Support, Gerresheimer Bünde, addresses the influence of silicone oil on the syringe system and highlights the advantages and possibilities of novel silicone-oil-free prefillable syringes, both or glass as well as for plastic syringes.

Using high quality glass vials to improve efficiency and reduce costs in pharmaceutical manufacturing

The Pharmaceutical Post, No. 11, July 2022, pp 46-55.
Elite vials - The Pharmaceutical Post

This Gerresheimer white paper briefly reviews some of the challenges for the pharmaceutical industry when working with glass vials and examines recent advances in glass vial production.



Trade publications

Silicone-oil-free, coating-free, tungsten-free prefillable syringes

ONdrugDelivery, Issue 138 (Oct 2022).
INJECTION - ONdrugDelivery

Bernd Zeiss, Head of Global Pharmaceutical Support at Gerresheimer Bünde and Taras Bredel, Business Development Director at Injecto, present the studies, development, performance and benefits of the Injecto lubrigone3 plunger stopper combined with the Gerresheimer RTF® glass syringe for sensitive drugs.

On-body delivery systems – News and Trends

ONdrugDelivery, Issue 137 (Sept 2022), pp 12-16.
Wearables-ONdD-Sep-2022)

This overview discusses the current state of play in the on-body delivery system space, reviews recent milestones and proposes directions for the future. Gerresheimer Olten (Sensile Medical) has three OBDSs in its offering which are described in this article.

Injection Devices: Three Trends Influencing Development & Delivery

Drug Development & Delivery, Vol. 22, No. 6, September 2022, pp. 44-63.
SPECIAL FEATURE - Injection Devices

The global injectable drug delivery market is expected to grow phenomenally. This report showcases how Gerresheimer and other manufacturers are addressing these trends in their injection designs.

Industrialisation of Pharmaceutical and Medical Devices in the Scientific Moulding Approach

ONdrugDelivery, Issue 136 (Aug 2022), pp 28–33.
Industrialisation – ONdrugDelivery

Thomas Rudolph, Markus Reil, Stefan Schumann and Tobias Weigert, Gerresheimer Medical Systems, discuss our strategy for managing potential risks across the entire product lifecycle.

Getting proactive with Pharma Packaging

Pharmaceutical Technology, Vol. 46, Issue 7, July 2022, pp 16-19.
Getting Proactive (pharmtech.com)

Stefan Verheyden, Global VP of our Gx® Biological Solutions Team, elaborates on trends in the pharma packaging market: a developing preference for single-dose packaging formats, a rise in drug development in general, the growth of e-Commerce and sustainability efforts.

Gerresheimer – Innovating for a better life

International Biopharmaceutical Industry, Vol. 5, Issue 2 (2022), pp 8-9.
Gerresheimer (international-biopharma)

In this interview, Stefan Verheyden, Global Vice-President Gx® Biological Solutions at Gerresheimer, gives an insight into the newly launched online service tool gGuide, which helps customers find the best product solution in Gerresheimer's portfolio.

Gerresheimer awarded EcoVadis gold for sustainable corporate management

Gerresheimer has been awarded the gold medal for the first time by EcoVadis, one of the leading providers of sustainability rankings, for the successful implementation of its sustainability strategy. With 68 out of a maximum of 100 possible points, Gerresheimer is among the top 5 percent of all companies assessed by EcoVadis and among the best 2 percent in the industry. Gerresheimer has been awarded an EcoVadis silver medal in each of the past three years with steadily rising point values.

"The EcoVadis gold medal is a milestone in the successful implementation of our sustainability strategy. Sustainability is one of Gerresheimer's five strategic fields of action in which we specifically drive forward our ambitious and measurable goals," said Dietmar Siemssen, CEO of Gerresheimer AG. "We are proud that the progress we have made in recent years has been confirmed by an independent, external rating," added Katja Schnitzler, Group Senior Director EHS CSR OPEX.

The EcoVadis rating covers a range of non-financial parameters, including environmental, social, ethical and sustainable procurement. The rating provider evaluates more than 90,000 companies. The methodology is based on international CSR standards such as the Global Reporting Initiative, the United Nations Global Compact and ISO 26000.

The independent, external rating makes Gerresheimer's sustainability performance transparent to all stakeholders. Many international pharma and cosmetics customers use the rating in the regular review of their suppliers with a view to sustainable corporate governance.

As a globally active production company, Gerresheimer bears great responsibility for customers, patients, employees, partners, suppliers, neighborhoods and the environment. Gerresheimer has set itself the goal of being a strong partner and solution provider that integrates sustainability into its core processes, decision-making and products. The successful realization of these ambitions is now documented by the award of the EcoVadis Gold Medal.

More about sustainability and corporate responsibility can be found at gerresheimer.com.

Trade Fairs

CMEF China International Equipment Fair
November 23–26, 2022
Shenzen, China
Shenzen World Exhibition & Convention Center | Booth 8.1M10

CPHI India
November 29 – December 01, 2022
Greater Noida, Dehli NCR, India
India Expo Center

Drug Delivery to lungs
December 07–09, 2022
Edinburgh, Scotland | Edinburgh International Conference Centre

Medtec China
December 12–16, 2022
Suzhou, China
Suzhou International Expo Center
Booth 2D402

CPHI China
December 20–22, 2022
China | Shanghai New International Expo Center

g academy

Fractography
Practical Training Course
November 29–30, 2022
Bünde (Germany)

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Fractography Practical Training Course

November 29 and 30, 2022 in Bünde (Germany)

- Plant tour at our glass converting production
- Get to know glass in detail
- Learn about fractography
- Optional: bring your own sample to analyze with our experts
- Shuttle service, drinks, lunch and networking dinner included

Participation fees: 2000 €

For registration please send an e-mail to:
maren.korf@gerresheimer.com
(incl. your name and company)

Hotel: Van der Valk Hotel Melle-Osnabrück
www.melle.vandervalk.de
Use the code: “Gerresheimer Buende” during booking

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