

Gx[®] Performance
Levels

Find the right
solution
for your needs

Vials, Syringes, Ampoules
and Cartridges

gerresheimer.com

gerresheimer
innovating for a better life



Our tubular glass products

Vials, syringes, ampoules and cartridges



A clear structure:

Gx[®] Performance Levels

We want to make it as easy as possible for you to find the right Gerresheimer product. That is why we have created a consistent structure with three performance levels for our vials, syringes, ampoules and cartridges:

Gx[®] Value

Proven solutions in pharmaceutical quality.

Gx[®] Advance

Improved quality for higher efficiency in fill & finish.

Gx[®] Elite

Best-in-class quality and protection for highly sensitive drugs.

The new classification is based on an understandable systematic with increasing performance from level to level and clearly defined quality requirements and attributes for each level.

Gx® Value

Proven solutions in pharmaceutical quality.

Gx® Value vials, syringes, ampoules and cartridges are functional products in proven pharmaceutical quality made of type I borosilicate glass. They guarantee an efficient and cost-effective fill & finish process at all times and comply with all regulatory requirements. We produce Gx® Value products worldwide locally for the respective markets and guarantee a high level of supply availability.

Typical areas of application include heparins, generics and active ingredients for veterinary medicine.



Product Benefits



Internationally standardized product

Full compliance to ISO standards to address pharma quality



Local-for-local supply

Secured supply chain by global availability with short lead times



Proven functionality

Seamless integration into all existing fill & finish equipment / proven compatibility



State-of-the-art material

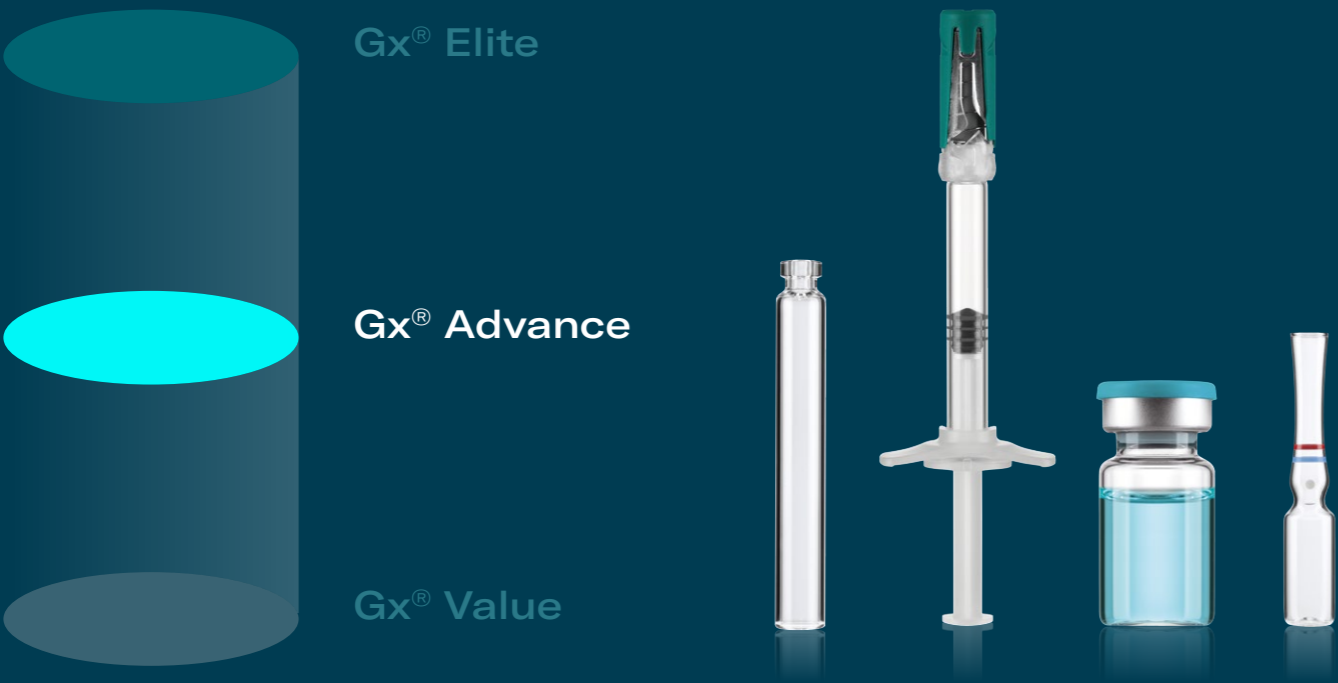
Glass tubing from all major suppliers available

Gx[®] Advance

Improved quality for higher efficiency in fill & finish.

Gx[®] Advance products offer the properties of the Gx[®] Value level plus additional benefits such as tighter dimensional tolerances, reduced glass-to-glass and glass-to-metal contact and reduced cosmetic defects. If more performance and even less risk are required for fill & finish, then the products from the Gx[®] Advance level are the right choice. Gx[®] Advance Syringes and Gx[®] Advance Cartridges are offered as Ready-To-Fill (RTF) products.

Products and solutions from the Gx[®] Advance level are suitable for vaccines, small molecule drugs, or diabetes medications, for example.



Product Benefits



Internationally standardized product

Full compliance to ISO standards to address pharma quality



Local-for-local supply

Secured supply chain by global availability with short lead times



Proven functionality

Seamless integration into all existing fill & finish equipment / proven compatibility



State-of-the-art material

Glass tubing from all major suppliers available



Improved fill & finish efficiency

Improved product quality leads to less defects on fill & finish lines with improved performance and reduced TCO



Higher product quality

Tighter AQLs (reduced vial-to-vial and vial-to-metal contact) lead to reduced cosmetic defects. Increased dimensional consistency for all products.



Advanced system variety

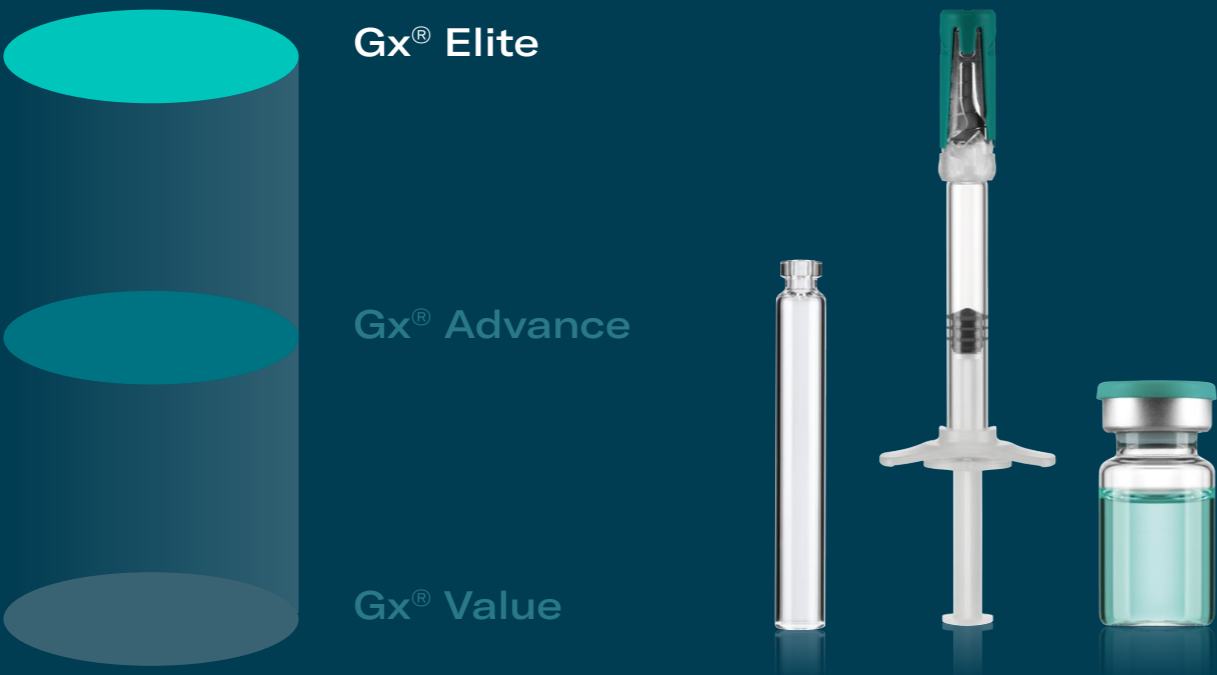
Additional system features like surface treatment and elastomer components etc. are available

Gx® Elite

Best-in-class quality and protection for highly sensitive drugs.

Gx® Elite vials, syringes and cartridges offer all the advantages of the Gx® Advance level plus significantly higher breakage resistance, absolutely consistent dimensional tolerances and a flawless appearance thanks to no glass-to-glass and minimized glass-to-metal contact during manufacturing and transport. All products in the Gx® Elite level can be supplied in a Ready-To-Fill (RTF) version. Gerresheimer offers the EZ-fill or EZ-fill Smart™ packaging platform. EZ-fill Smart™ packaging is available with environmentally friendly VHP sterilization. Comprehensive data packages are also available upon request.

These highest quality products and solutions are ideal for sensitive drugs and biologicals, mRNA vaccines, gene therapy drugs and active ingredients used in ophthalmology and aesthetic medicine.



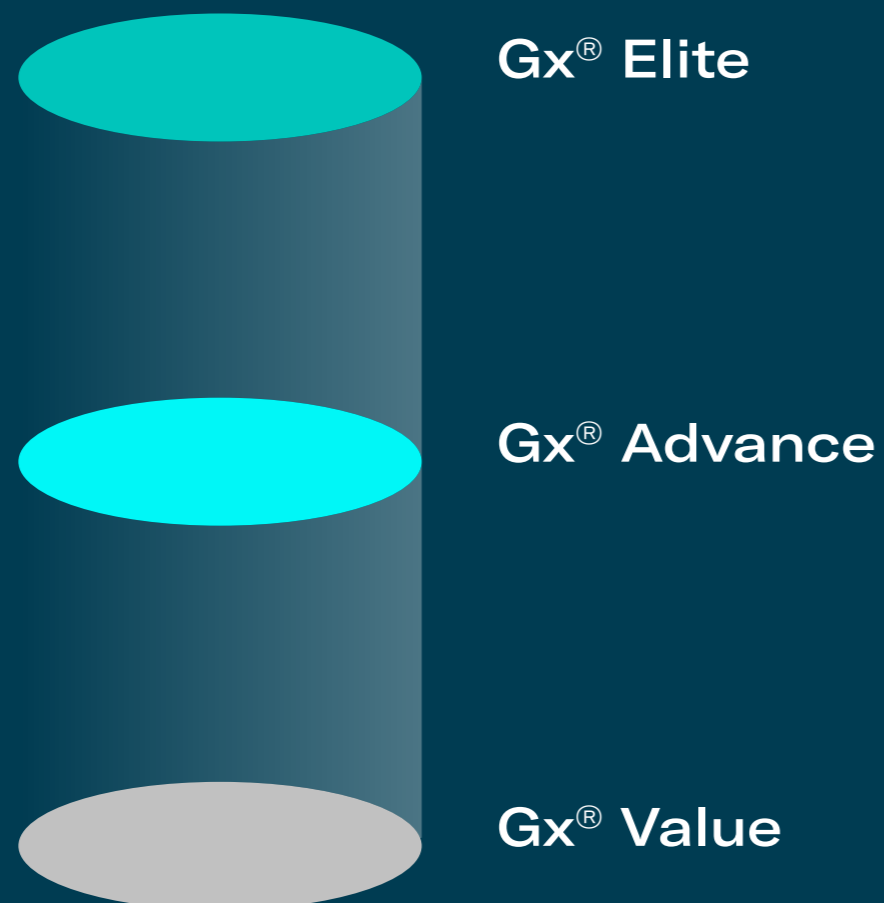
Product Benefits

-  **Internationally standardized product**
Full compliance to ISO standards to address pharma quality
-  **Local-for-local supply**
Secured supply chain by global availability with short lead times
-  **Proven functionality**
Seamless integration into all existing fill & finish equipment / proven compatibility
-  **State-of-the-art material**
Glass tubing and polymers like COP from all major suppliers available
-  **Improved fill & finish efficiency**
Superior product quality leads to less defects on fill & finish lines with improved performance and reduced TCO
-  **Superior product quality**
Tighter AQLs (reduced vial-to-vial and vial-to-metal contact) lead to no visible defects, scratches or contamination. No glass-to-glass contact for tube processing. Best dimensional consistency for all products.
-  **Advanced system variety**
Additional system features like surface treatment and elastomer components available
-  **Optimized TCO**
Improved performance on fill & finish lines leads to optimized TCO (lower running / lower overall costs for customers)
-  **Highest compatibility for sensitive drugs**
Extractables testing data, fulfils sophisticated pharmaceutical requirements
-  **Comprehensive data packages available**
System performance and compatibility data available including data for pharmaceutical requirements.

A clear structure: Gx[®] Performance Levels

Products at all performance levels passed through multi-stage, strict quality assurance processes and fulfill all regulatory requirements. On all three performance levels we offer several standard products in all product categories (vials, syringes, ampoules and cartridges): a broad range for all applications and customer needs.

With Gx[®] Choice, we also offer you the opportunity to customize products and solutions according to your needs.



Leading system and solution provider: Components, treatments and services

Thanks to the three performance levels Gx[®] Value, Gx[®] Advance and Gx[®] Elite, you can find the right solution for your needs quickly and easily. In addition, we provide our products as a complete system with a great variety of components, treatments and services that guarantee a perfect match with our standard products within the three performance levels.

Components and accessories

We offer you suitable caps & closures for vials and cartridges, tailored to your requirements. We supply our syringes with high-quality components and accessories including closure systems, needle shields, plunger stoppers, plunger rods and backstops.

All components offered meet the highest requirements in terms of safety and user-friendliness. Depending on the application and the fill & finish process, they vary in sizes, formulation, and design.

Treatments and coatings

Special coatings can be used to provide the glass surface with additional protection against mechanical influences. The innovative Velocity[®] Vial – available on Gx[®] Elite performance level – comes with an outer coating to reduce frictional resistance and thus significantly increases the efficiency of the filling process. Moreover, we offer diverse siliconization options such as spray and baked-on, but also for example silicone-oil-free syringes. Individual options, such as an ammonium sulfate treatment for an enhanced surface resistance, complete the range.

Container-level traceability

The Gerresheimer traceability system enables complete traceability of our products throughout the value chain: from primary packaging to secondary packaging, and from drug filling and serialization up to the final application at the PoC. Therefore traceability helps to increase patient safety and fight counterfeiting. Data can be linked to individual products, analyzed and evaluated via our powerful digital infrastructure.

About Gerresheimer

Gerresheimer is an innovative systems and solutions provider and a global partner for the pharma, biotech and cosmetic industries. The Group offers a comprehensive portfolio of drug containment solutions including closures and accessories, as well as drug delivery systems, medical devices and solutions for the health industry. The product range includes digital solutions for therapy support, medication pumps, syringes, pens, auto-injectors and inhalers as well as vials, cartridges, ampoules, tablet containers, infusion, dropper and syrup bottles and more. Gerresheimer ensures the safe delivery and reliable administration of drugs to the patient. Gerresheimer supports its customers with comprehensive services along the value chain and in addressing the growing demand for enhanced sustainability. With over 40 production sites in 16 countries in Europe, America and Asia, Gerresheimer has a global presence and produces locally for regional markets. The Group generated revenues of around €2bn in 2023 and currently employs around 13,400 people. Gerresheimer AG is listed in the MDAX on the Frankfurt Stock Exchange (ISIN: DE000A0LD6E6).