Worldwide presence

SCHOTT forma vitrum is one of the world’s leading suppliers of parenteral packaging for the pharmaceutical industry. More than 600 production lines in 12 countries worldwide produce 7 billion syringes, vials, ampoules, cartridges and special articles made of glass tubing or polymer.

Excellent raw materials, state-of-the art manufacturing, the use of the latest technologies, continuous research and development enable innovative product solutions that meet our customers’ stringent demands.

The back-up possibilities offered by our production sites situated all over the world provide flexibility, reliability and security to our partners. Our production facilities operate in a GMP environment, and our products comply with USP, EP and JP international standards.
SCHOTT forma vitrum is your reliable partner for today and for years to come

Future-oriented and committed to be the leading supplier of innovative primary packaging for your injectables

More than 125 years of material expertise

Glass – As a pioneer and proven expert in glass technology and manufacturing, we guarantee the superior quality of SCHOTT glass tubing. SCHOTT Fiolax® glass tubes are made of highly resistant borosilicate Type I glass of the highest hydrolytic resistance. Excellent barrier properties, high chemical resistance, excellent cosmetic properties, as well as tight geometric tolerances in diameter and thickness are the starting point for manufacturing high quality containers with an excellent performance on the filling lines. SCHOTT glass tubes meet GMP requirements.

Polymer – Pharmaceutical containers made of advanced cyclic olefin copolymer (COC) of the highest purity are break resistant, light weight and transparent with a glass-like appearance. COC hightech polymer shows excellent barrier properties, no ion or heavy metal release, and a lower particle level than glass. SCHOTT has more than 10 years of experience with COC for pharmaceutical applications. A very good alternative to glass!
Prefillable syringes made of glass

**forma 3S®**
Completely sterile syringe set, ready for the filling process. *s* forma 3S® syringes with staked needle, luer cone, or luer lock are packed in nests for easy handling and filling. Syringes from 0.5 ml to 3 ml are delivered as a complete set including all of the required rubber components.

**forma 2S**
Designed for bulk production, these syringes are delivered in non-sterile form. The unassembled glass barrels with staked needle, luer cone, or luer lock are packed in trays.

Prefillable syringes made of polymer

**SCHOTT TopPac®**
Sterile prefillable syringes made of COC hightech polymer are packed in nest form to enable easy handling and filling. SCHOTT TopPac® syringes from 0.5 ml to 50 ml are available with integrated luer lock. They are supplied, according to customer requirements, as a complete set with rubber components.

COC polymer
- Transparent with a glass-like appearance
- Break-resistant
- Excellent barrier properties

Packaging
- Tub with nest for sterile forma 3S® and SCHOTT TopPac® syringes
- Tray for forma 2S syringes
Vials made of glass

A broad variety of vials from 1 ml to 100 ml with different neck finish designs, with or without blowback, meet any need you may have. For special requirements, we also offer inside-coated vials such as SCHOTT Type I plus® for improved chemical stability and inertness, as well as SCHOTT TopLyo™ for optimum efficiency of the lyophilisation process.

Vials made of polymer

**SCHOTT TopPac®**

Vials made of cyclic olefin copolymer (COC) offer transparency comparable to glass. Due to excellent barrier properties, high chemical resistance and breakage resistance, this vial is an excellent alternative to glass, especially for emergency drugs, vaccines, diagnostic products and contrast media. Gamma irradiation is possible. SCHOTT TopPac® vials are available from 2 ml to 100 ml.
Ampoules made of glass

Ampoules offer a great benefit: The medication is in contact with glass only and the packaging is 100% tamper proof. We supply a wide range of ampoules in different types, from 0.5 to 50ml, with the break systems OPC (one-point cut), color-break ring, or scoring. Up to three color rings can be placed on the stem or body for identification purposes. Printed ampoules are available with colors free of heavy metals. Ampoules with low alkalinity are available on demand.

Cartridges made of glass

Cartridges are an ideal packaging for insulin and other drugs. They are used with pen or pump systems, auto-injectors and needle-free injectors. Highest precision and quality for all dimensional and functional aspects of the container are required to enable the functionality of these sophisticated drug delivery systems.

Special products

Dropper Pipettes

A wide range of shapes and colors are available for medical and diagnostic applications. For accurate dosage, printing and siliconization are recommended. Dropper pipettes are supplied pre-washed and assembled with caps and droppers. They can be ordered ready-to-sterilize.

Plastic Closure Systems

Screw caps and snap caps made of plastic can be supplied together with our screw-neck vials and tablet bottles. Special shapes are available on customer request.

SCHOTT PURGARD®

The translucent aerosol container consists of a specially shaped inner glass container of pharmaceutical Type I glass and an outer polymer shell. It guarantees chemical stability as well as breakage protection and mechanical strength. Choose your own design and color.
Three vial quality options to choose from

High quality from standard level up to tailor-made solutions for the highest requirements.

**TopLine**

**Tailor-made solutions for the highest requirements.**
TopLine products are individually designed to meet advanced product requirements according to customer specifications – enabling you to always stay one step ahead.

**ClearLine**

**Advanced product solutions for superior demands.**
SCHOTT forma vitrum exclusive forming technology and 100% dimensional and cosmetic inspection ensure excellent production performance on your filling lines.

**StandardLine**

**High quality complying with international standards.**
SCHOTT forma vitrum StandardLine is our well established high-level quality that complies with international standards.

For additional information please see our separate product brochures.
Advanced opto-electronic technology ensures accurate inspection

Technologies

SCHOTT PI-Coating®
The properties of pharmaceutical containers can be improved by SCHOTT PI-Coating® technology developed by SCHOTT. Through the PICVD (Plasma Impulse Chemical Vapor Deposition) process, thin layers of coating are applied to the inner surface of glass or polymer containers in a validated process that has been proven a million times over. Typical benefits are improved barrier properties, improved chemical inertness of glass, less adsorption of biomolecules, or a prolonged shelf life of drugs in polymer containers. SCHOTT PI-Coating® is used for SCHOTT Type I plus® and SCHOTT TopLyo™ vials, for example. A three-stage inspection (100% on-site inspection of the reactors, an inspection of the process parameters and system monitoring) enables 100% pharmaceutical quality.

AIS – 100% Automated Inspection System
AIS enables the highly sensitive and reliable classification of defects by type, size and even the position of the defect on the container. The state-of-the-art visual inspection technology was developed by SCHOTT forma vitrum. It provides accurate 100% cosmetic inspection for vials and pen cartridges, including containers up to 50 ml and special sizes and shapes. All key surfaces of the container are inspected, including internal neck and collar, seal face, shoulder, body, heel, and bottom. Defects such as scratches, cracks, micro-cracks, chips, black spots, tooling marks, deformations, airlines, and particles are automatically classified. AIS is completely integrated in the production process.
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