

Ready-to-fit silicone hoses for pure fluids

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In the pharmaceutical, food-and-beverage and cosmetics industries, and in biotechnological production plants in general, stringent and very specific demands are placed on flexible connections. Silicone rubber hoses are preferred in these application areas. Their special base materials and processing enable silicone rubber hoses to meet the required hygienic, chemical, thermal and mechanical specifications. With every order, Angst+Pfister seamlessly documents the specification fulfillment with verification and inspection certificates.



The pharmaceutical, food-and-beverage, cosmetics and biotechnology sectors all have something in common: they produce or process substances intended for direct or indirect consumption or that otherwise come into close contact with living beings. Hoses and flexible tubing for these application areas must therefore conform to stringent national and international regulations, specifications and guidelines. Moreover, there are also pure or otherwise sensitive fluids that must not be contaminated or altered during pumping. Prescribed routine cleaning and sterilization processes put additional stresses and strains on flexible connections.

Materials for sensitive applications

High-alloy stainless steel, nickel alloys, fluoroplastics like PTFE, enamel and glass are well-known types of materials that meet exacting standards. However, they are often unfeasible for flexible tubing because they lack flexibility, and they are rarely suitable for corrugated tubing because they do not provide sufficient means of emptying and cleaning. Chemical-resistant high-temperature elastomers are often unsuitable for contact with food or incapable of meeting other medical specifications.

This gap is filled by specially developed, high-grade, white- or natural-colored platinum-cured silicone hoses. They meet typical specifications such as:

- compliance with FDA 21 CFR 177.2600 (US Food & Drug Administration regulations)
- compliance with the food regulations of Germany's Federal Institute for Risk Assessment
- compliance with USP Class VI (Pharmacopoeia of the USA)
- compliance with 3.1.9. of the European Pharmacopoeia
- certified verification of conformity with cytotoxicity and hemolysis specifications for medical applications
- suitability for CIP (cleaning in place)
- sterilizability, for example, with saturated steam at +124 °C and 3 bars for a duration of 40 minutes or via irradiation

Connecting fittings

Two criteria are decisive for connecting fittings for sensitive fluids:

- Best possible dead space freedom, meaning no inaccessible spots and no corners or edges that are hard to clean.
- Compatibility of materials such as AISI 316 L, also known as material no. 1.4435 or 1.4436.

Under typical pressure ranges, it does not vitally matter whether press-fit or reusable screw fittings are ultimately used. What's important is the selection of the correct inner diameter, wall thickness and professional processing of the hose.

Documentation of proof

On request, Angst+Pfister provides certification, proof of inspection and other verification documentation. Even individual markings on the tubing can be supplied at the customer's request, or eventual supplemental testing can be arranged. To ensure product delivery on deadline, requests for such quality assurance services must be made early on, at the latest when placing the order.

Angst+Pfister is a trusted name for quality

The optimal product at the right place in defined and documented quality – that's what Angst+Pfister guarantees. Consult our specialists. They have the knowledge and experience to devise practical solutions to ensure that you have the right flexible connection for the intended application, whether as meter ware tubing or as a ready-to-fit hose system.



Silicone hose with press-fitted, dead-space-free stainless steel fittings.

Hose data

Nominal widths:	3 to 102 mm
Operating pressure range:	up to 15 bars (depending on nominal width)
Bursting pressure:	4 times maximum operating pressure
Operating temperature range:	- 60 °C to +180 °C
Vacuum stability:	90 %
Bending radius:	approx. 4 to 5 times inner diameter
Manufactured lengths:	up to 10 meters depending on nominal width and hose version