

Clean and safe with small glass flange connections

Glass assemblies with glass flange connections are indispensable for laboratory and test systems and inspection points in production processes. They offer a unique combination of process transparency, chemical resistance and good cleaning and sterilisation properties. The glass is also an electrical insulator. With tension-free small flange connection systems of thermally and mechanically resistant borosilicate or quartz glass, LINNEMANN GmbH in Tübingen now offers a complete range of safe-to-handle small glass flanges with accessories in accordance with the standards DIN 28403 and ISO 2861.

These high quality connection systems reduce the risks in plant installation and disassembly as well as in operation. Because pressure of time and economic considerations often demand quick interventions, e.g. conversions. In this case it is important that robust glass with flat machined transitions is used. Appropriate seals and plastic clamping rings as well as transparent PVC hoses ensure safe transitions, e.g. from metal to glass or to vibrating parts such as pumps.

The flange parts are offered both in quartz and in borosilicate glass for temperature ranges from -15 to 200 °C or -15 to 150 °C in nominal sizes DN10 to DN50.



Glass tube connection open and closed

Glasses containing boric acid have high resistance to chemical influences and temperature differences due to their high percentage of sand. They are therefore used, above all, in the chemical industry. Because of its good water resistance (hydrolysis class 1), borosilicate glass as a neutral glass meets the requirements of the USP and can therefore also be used in contact with foodstuffs.



Photo by kind permission of the Fraunhofer IGB, Plasma Technology and Thin Coatings, Institute for Limit Areas and Bio-process Engineering

About the photo: Fraunhofer relies on Linnemann glass components.

Various KF parts are used here:

- Glass angle piece
- Glass reducer with plastic clamping ring
- Glass adapter piece with 2 plastic clamping rings
- High grade steel angle piece with 3 high grade steel clamping rings
- Glass/metal adapter piece with one plastic clamping ring
- High grade steel corrugated hose

Plastic clamping rings and PTFE centring rings are used to fit the flanges otherwise the flanges could break. In addition, optical plates as blind flanges for applications with ultra-violet or infra-red light among other things and various components such as reducers, bends and cross pieces are offered. The O-ring elastomer seals are available in materials NBR, FKM or EPDM. When using outer centring rings, small glass flange connections are both vacuum-tight up to 10.3 mbar and pressure-proof.

Details of the small glass flange connections can be found under www.linnemann-online.de where graphics and product descriptions, structure and use are given in more detail.