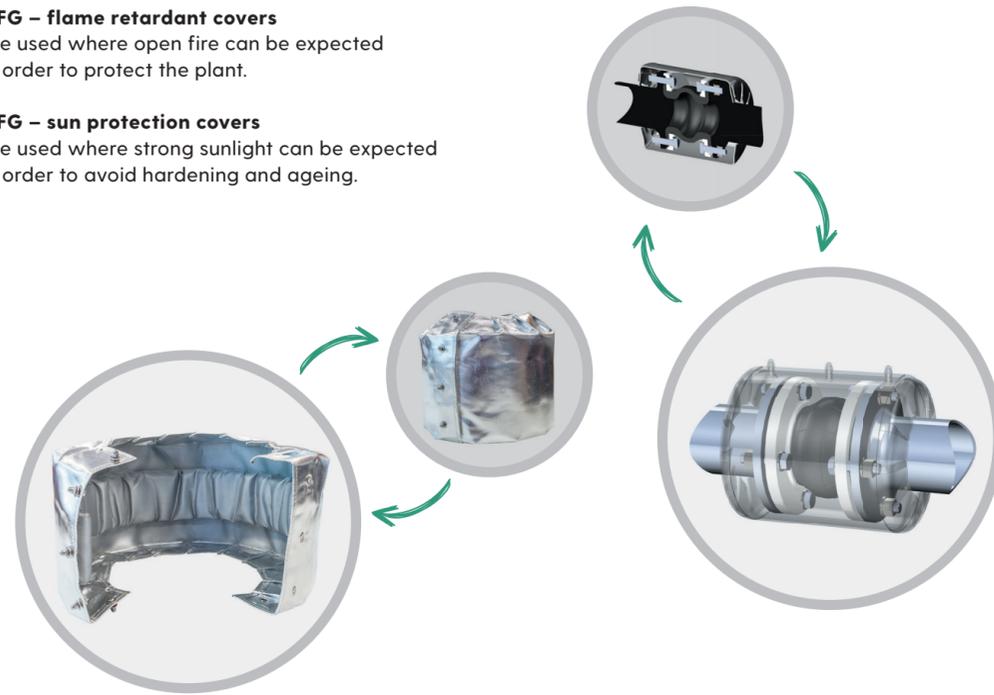


Protective covers

GFG – flame retardant covers
are used where open fire can be expected
in order to protect the plant.

GFG – sun protection covers
are used where strong sunlight can be expected
in order to avoid hardening and ageing.



Technical textiles

In addition to the production of fabric expansion joints, we also offer a plurality of insulating and sealing materials. Fabrics, wools, packages, and

cords made of various materials (glass, silicate, etc.) are used.



Zum Steingraben 9 · 95503 Hummeltal · Germany
Phone +49 (0) 9201 17 08 · Fax (09201) 9 54 45
www.gfgkompensatoren.com · info@gfgkompensatoren.com



PRODUCT PORTFOLIO



Fabric expansion joints

DESCRIPTION

An expansion joint is a flexible element for compensating movements in pipelines, including vibrations in lateral or axial directions, temperature differences, or wall ducts. They are used in pipeline construction as well as in plant and apparatus construction. Depending on the application, expansion joints are made of different materials. We offer soft material expansion joints which are always produced in consideration of certain operating parameters and thus meet the individual, customer-specific requirements.

MATERIAL

The numerous possible combinations of the materials allow customized production for operation-specific requirements. In order to be able to design expansion joints optimally, precise specifications are necessary: among other things, pressure and temperature conditions, mechanical loads, movements in the operating state, general information on the medium. The following material groups and the associated tasks determine the design of the expansion joints:

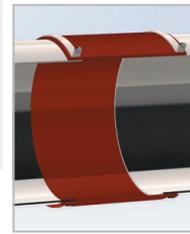
BENEFITS

- ✓ High compensating capacity
- ✓ Maximum mobility with minimum pipeline spacing
- ✓ Large movement absorption with simultaneous sealing function
- ✓ Low weight and low reaction resp. adjustment forces
- ✓ Easy installation—also by customer-own personnel
- ✓ Precise customization due to numerous possible variations of the materials used
- ✓ Combination of different functions possible due to multi-layer construction (e. g. tightness, insulation, pressure surge behavior)
- ✓ Optimum adaptation to operation-specific thermal, chemical, and mechanical influences
- ✓ Cost-effective production and low transport costs for large dimensions

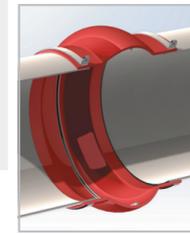
APPLICATION

Fabric expansion joints are used in all industries, for example in thermal power stations, chemical industry, cement industry, shipbuilding, chimney and fireplace construction, fan construction, ventilation technology, waste incineration plants, dedusting plants, or metallurgical industry. They are primarily used in plants with gaseous media such as flue gas or hot air.

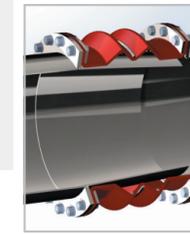
Central part straight
axial $-0,25 \times AR$
lateral $\pm 0,1 \times AR$



Central part curved
axial $-0,3 \times AR$
lateral $\pm 0,15 \times AR$

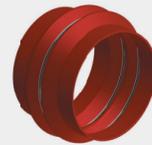


Central part with folds
axial $-0,5 \times AR$
lateral $\pm 0,3 \times AR$



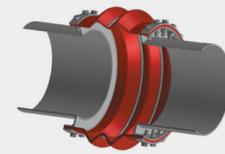
Designs

For our customers, we manufacture each expansion joint individually. In the process, we take into account the respective operation-specific parameters. Substantially, three designs can be distinguished:



Tube expansion joint I
Mounting directly on the pipeline

The tube expansion joint I serves to absorb movement in the axial, lateral, and angular directions. It is suitable for both oval and round cross sections and, depending on the material, for an operating temperature of up to 350 °C. It is designed for a pressure of ± 0.25 bar. At higher pressures we will evaluate the individual possibilities. If there is negative pressure, the bellows pulls inwards and narrows the cross section of the flow. Support rings can help here. For diameters between 700 and 800 mm, the expansion joint is attached with multi-part hose clamps. If the diameter is over 800 mm, it is advisable to choose a flange mounting.



Tube expansion joint II
Mounting on pulled out mounting flanges

The tube expansion joint II also serves to absorb movement in the axial, lateral, and angular directions. In contrast to the tube expansion joint I, however, it is suitable for all sizes and cross sections. The optimum temperature emission in the mounting area allows the expansion joint to be used without pre-insulation at 400 to 500 °C and with pre-insulation at 600 to 700 °C. Depending on the material and special design measures, it is even suitable for media temperatures of up to 1,000 °C. This expansion joint is also designed for an operating pressure of ± 0.25 bar.

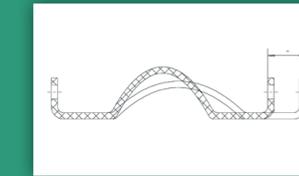


Flange expansion joint

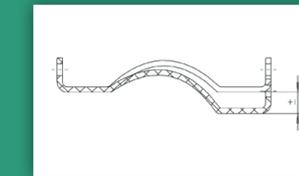
Suitable for oval, round, and rectangular cross sections, this design absorbs expansions in axial, lateral, and angular directions. We offer the flange expansion joint with self-sealing flanges and single or multi-part backing flanges. It is particularly used at higher pressure, extreme dimensions, or where maximum tightness is required. If larger flanges are mounted with additional insulation, it is suitable for media temperatures of up to 650 °C. The ideal temperature is between 450 and 500 °C. In addition, the expansion joint is configured for a pressure of ± 0.50 bar.

Possible movement absorption

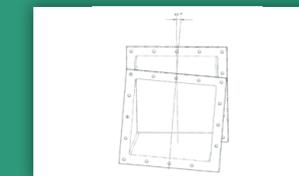
- also possible in combination -



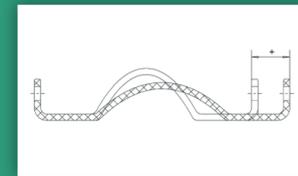
Axial Minus
(compression)



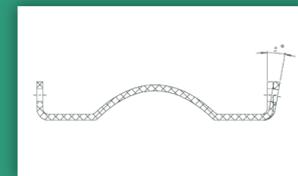
Lateral resp. sideward misalignment



Twist resp. torsion



Axial Plus
(expansion)



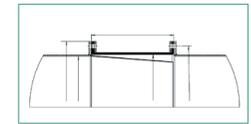
Angular misalignment

REQUIRED INFORMATION

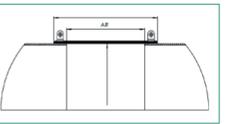
In order to implement customized requirements and wishes precisely, we require some information in advance:

1. Operating conditions such as medium, operating pressure and temperature, and movement absorption.
2. The following dimensions are to be taken on site: inner diameter, outer diameter, installation height.

Flange expansion joint



Tube expansion joint



Full service

„Everything from a single source“

Benefit from our extensive service. From personal advice and plant inspection, over the measurement up to the production and installation you receive everything from a single source. Our experienced and optimally equipped specialists take on the complete installation for new construction or revision measures. On request, we will gladly

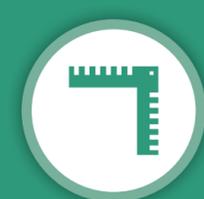
provide you with a chief fitter who will support you, instruct your personnel, and supervise the installation activities.

You don't have to worry about anything and have more time for your day-to-day business.

Advice



Measurement



Production



Installation

