

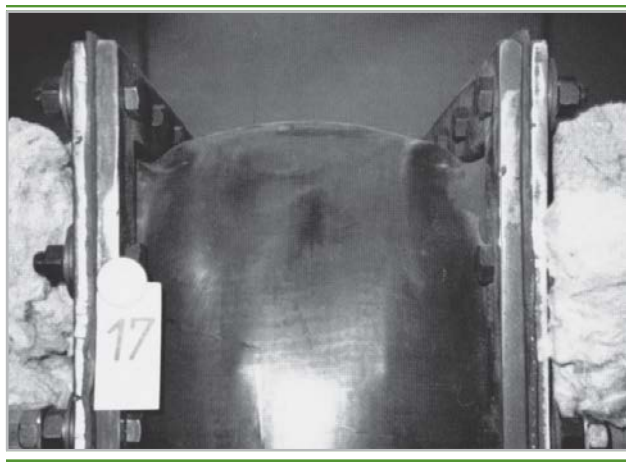
ReaFlex and ReaTex Elastomer and Fabric Compensators for Flue Gas and Desulphurisation Plants

Kempchen has developed chemically and thermally durable fabric compensators for flue gas desulphurisation (FGD) waste incineration and chemical plants:

- ReaFlex Elastomer Compensators
 For temperatures up to 205 °C
- ReaTex Fabric Compensators
 For temperatures above 260 °C

ReaFlex Elastomer Expansion Joints

ReaFlex compensators are manufactured from elastomer bands reinforced with wire mesh, wire weave or fabric fibre glass. They are available in U-shape or band type for circular or angular ducts. For angular ducts, expansion joints can be manufactured with or without a bulge in the edge area. The design with a preformed bulge shows increased axial movement compensation.



ReaFlex compensators are also available in an open-ended design. The open-ended design can be vulcanised on site.

The following materials have proven successful for FGD plants: FKM (Fluor-terpolymer rubber), EPDM (Ethylene Propylene Rubber) and CIIR (Butyl Rubber). We supply ReaFlex

compensators in these elastomer qualities with wall thicknesses of 3.5 mm up to 6 mm with reinforcements of high-grade steel (e.g. 1.4539) or fabric fibre glass.

Table 1 shows maximum allowable material temperatures. An outlet nozzle can be installed for applications where condensation occurs. Because these compensators are self-sealing in the flange area, additional sealing is not typically necessary.

Due to technical factors during manufacture, ReaFlex compensators are available for angular ducts with a minimum interior width of 400 x 400 mm. Round compensators are produced with a minimum interior diameter of 400 mm.

ReaTex Fabric Compensators

ReaTex compensators are manufactured from PTFE coated glass fabric fibres. This combination of materials has shown superior performance at media temperatures of up to 260 °C. No pre-insulation is necessary at temperatures below this point. For higher temperatures, inner pre-insulation must be installed. Outer insulation is not permitted. See Table 2.

Due to the demanding requirements, we manufacture bands of fabric fibre glass sheet coated with a 0.4 mm layer of sintered PTFE foil. A special manufacturing process allows a sustained temperature resistance of 260 °C without the PTFE foil peeling off. All seams are gas-tight sealed with sintered PTFE foil. Our manufacturing process avoids seams in edge areas. ReaTex compensators are also available in an open-ended design. The open-ended model can be vulcanised to be gas-tight on-site.

Due to the increased acidic condensation present at FGD plants, ReaTex compensators are equipped with edge reinforcements made from FKM elastomer for temperatures up to 205 °C or PTFE strips for temperatures up to 260 °C (see table 2). For special areas of application, ReaTex compensators can be manufactured with condensation outlet nozzle made from a material such as PTFE.

Table 1: Application limits of ReaFlex compensators.

Media Temperature	Elastomer Qualität	intermediate layer		
		Wire Mesh	Wire Weave	Fibre Glass
T ≤ 100°C	CIIR			
T ≤ 120°C	EPDM	one layer	two layers	one or two layers
T ≤ 205°C	FKM			

Table 2: Application limits for ReaTex compensators

Media Temperature	Inside Edge Reinforcement	Inside Pre-insulation	Outside Insulation	Leak Tightness
T ≤ 205°C	FKM-Elastomer	no	yes	very good
T ≤ 260°C	PTFE tape			
T ≤ 300°C	PTFE tape*	yes	no	very good*

* depending on assembly type, please consult Kempchen.