Fabric Bellows

If bellows are subject to especially heavy wear, high pressure conditions or high temperatures up to 200°C, fabric bellows can be used.

Fabric bellow coated with synthetic material

Typical fields of application are piston rods with high ambient temperatures, or cardan shafts. Fabric bellows consist of a laminted structure, whereby the supporting fabric is coated with a synthetic material.

In contrast to the rubber disk bellows, the fabric bellows have a structural reinforcement which withstands the mechanical forces acting. The external protective effect of the rubber is maintained completely.
Nevertheless, the supporting fabric changes the character of the surface, so that the smoothness of the rubber disk type is lost.

Fabric bellow coated with Alu/Glass fibre coating

Material

Fabric bellows are delivered as standard in CR rubber coated fabric. All materials can be laminated with Teflon foil.
A speciality are fabric bellows made from leather and carbon fibre with Aramid or Alu/Glass fibre.

Types

The fabric bellows will be normally produced in round shapes. As an alternative, square, rectangular or oval profiles can also be produced.
The bellows are fastened like the rubber disk bellows.

Construction		
Calulation formulae (material with 1 mm thickness)		
Lmax	=	FZ x FB x 1.4
Lmin	=	FZ x 6
FB	=	$\frac{(AD - ID)}{2}$
FZ	=	L_{max} : FB : FZ

Legend	
FB	Fold width/depth
FZ	Number of folds
L_{min}	Minimum Compression of bellow
L_{max}	Maximum extension of bellow
AD	Outer diameter
ID	Inner diameter

Fabric bellow - sample of larger size

Dimension

We manufacture fabric bellows in the standard sizes with inside diameters of 30 to 2900 mm and an outside diameter of 50 to 3000 mm.

All dimensions in mm if not marked otherwise. Errors and omissions excepted.