

## Designs

The following summary shows the many designs. That facilitates choosing a bellow type for a particular application. The most important type characteristics are:

- the nature of the flange construction
- the shape of the middle part
- the construction of the flow opening

### Type coding

The different bellow constructions are marked with type numbers. Each figure is a code for the construction characteristics.

#### 1st figure

The first figure indicates if this involves one single bellow or a number of bellows of the same type fitted behind each other.

- 1 = 1 bellow
- 2 = 2 bellows behind each other
- 3 = 3 bellows behind each other, etc.

#### 2nd figure

This indicates the flange construction.

- 0 = straight clamping ends
- 1 = 1 outward facing flange
- 2 = 2 outward facing flanges
- 3 = 2 inward facing flanges
- 4 = 1 flange facing inwards and 1 flange outwards
- 5 = 1 inward facing flange

#### 3rd figure

For the construction of the middle part eight different variations are possible.

- 0 = straight middle part
- 1 = middle part arched outwards
- 2 = conical middle part
- 3 = a fold in the middle part (for a number of folds see below)
- 4 = middle part arched inward
- 5 = balloon-shaped (to outside or inside)
- 6 = ring-shaped
- 7 = membrane

#### 4th figure

The different passages are marked as follows:

- 1 = same passage
- 2 = passages of different size
- 3 = from round passage to rectangular or square passage
- 4 = without passage

#### 5th figure

The fifth letter or the fifth figure after the slash indicates special details such as e.g.:

- /IS = insulation
- /3 = middle part of 3 folds
- /D = double bellows above each other
- /A = adjusted axis

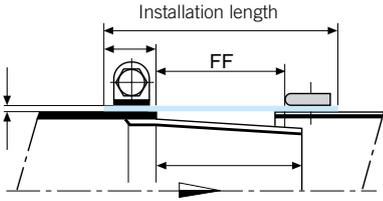
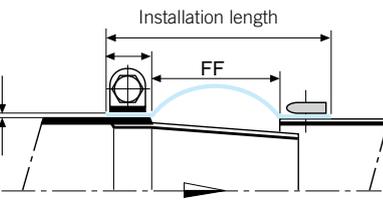
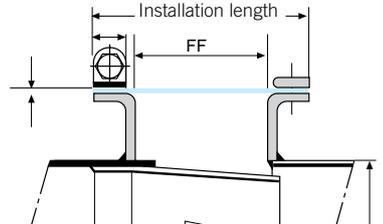
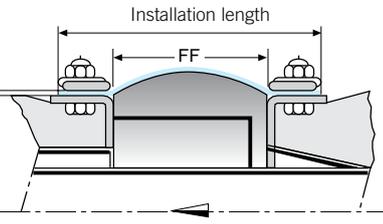
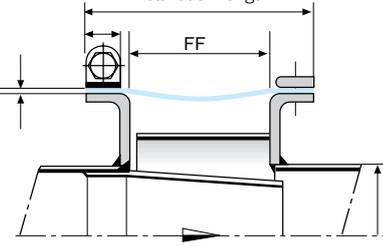
#### Example:

Bellow type 1.132/4

The indications mean: a single (1) bellow with one outward facing flange (1) with fold in the middle part (3) and connections with different passages (2). The addition after the slash (4) means the bellow has 4 folds (see drawing).

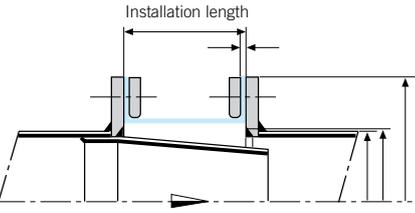
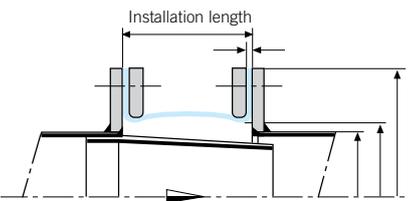
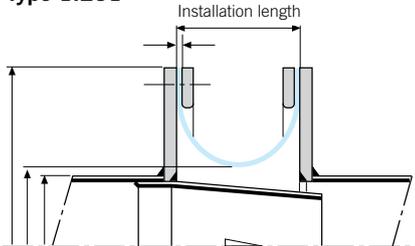
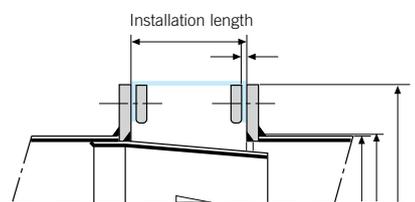
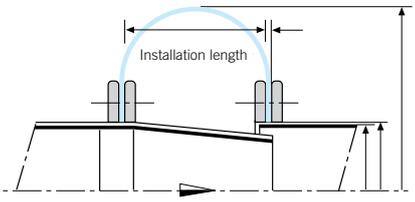
### Designs

The different bellow types can be used in different operating conditions because of different material construction combinations but with equal movement compensation.

with band clamp connection	Movement capability of the distance between the piping ends in terms of percentage	Temperature range	Pressure range
<b>Type 1.001</b> 	Axial +/- 25% Lateral +/- 10%	180 °C 500 °C	+1 bar +/- 100m bar
<b>Type 1.011</b> 	Axial +/- 35% Lateral +/- 15%	180 °C 500 °C	+1 bar +/- 100m bar
<b>Type 1.001 + 1.001/IS</b> 	Axial +/- 25% Lateral +/- 10%	180 °C 1000 °C	+1 bar +/- 100m bar
<b>Type 1.011/IS</b> 	Axial +/- 35% Lateral +/- 15%	180 °C 1000 °C	+1 bar +/- 100m bar
<b>Type 1.041 + 1.041/IS</b> 	Axial +/- 35% Lateral +/- 15%	180 °C 1000 °C	+1 bar +/- 100m bar

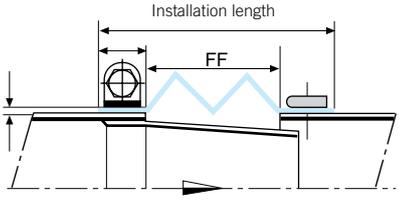
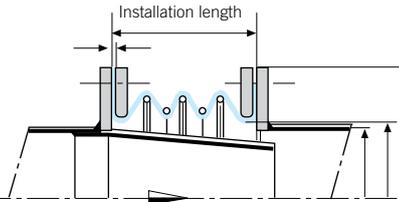
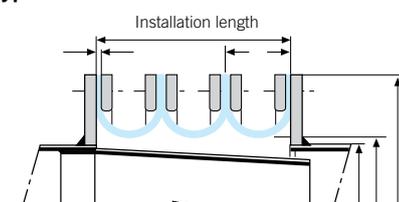
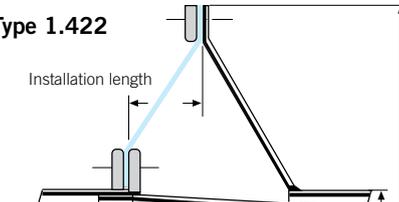
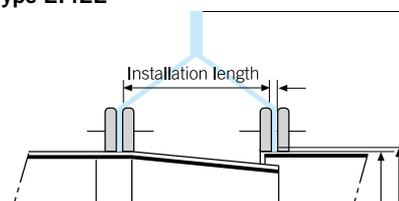
### Designs

The different bellow types can be used in different operating conditions because of different material construction combinations but with equal movement compensation.

with band clamp connection	Movement capability of the distance between the piping ends in terms of percentage	Temperature range	Pressure range
<b>Type 1.201</b> 	Axial +/- 25% Lateral +/- 10%	180 °C 500 °C	+1 bar +/- 100m bar
<b>Type 1.211</b> 	Axial +/- 35% Lateral +/- 15%	180 °C 500 °C	+3 bar +/- 100m bar
<b>Type 1.251</b> 	Axial +/- 70% Lateral +/- 30%	180 °C 500 °C	+0.5 bar +/- 100m bar
<b>Type 1.301</b> 	Axial +/- 25% Lateral +/- 10%	180 °C 250 °C	+1 bar +/- 100m bar
<b>Type 1.351</b> 	Axial +/- 70% Lateral +/- 30%	180 °C 500 °C	+5 bar +/- 100m bar

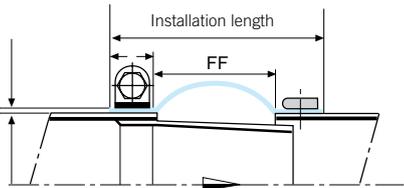
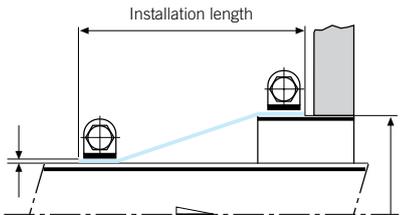
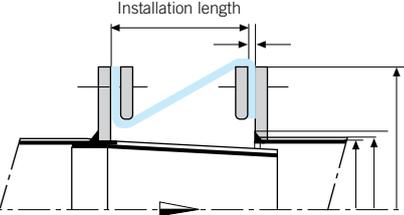
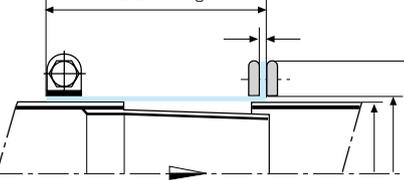
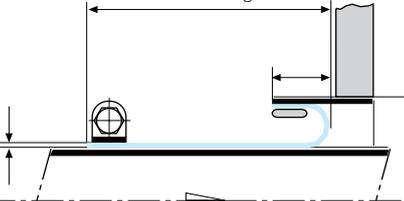
### Designs

The different bellow types can be used in different operating conditions because of different material construction combinations but with equal movement compensation.

with band clamp connection	Movement capability of the distance between the piping ends in terms of percentage	Temperature range	Pressure range
<b>Type 1.031/2</b> 	Axial +/- 70% Lateral +/- 30%	180 °C 400 °C	+1 bar +/- 200m bar
<b>Type 1.231/3</b> 	Axial +/- 60% Lateral +/- 30%	180 °C 400 °C	+1 bar +/- 200m bar
<b>Type 3.251</b> 	Axial +/- 70% Lateral +/- 20%	180 °C 500 °C	+0.5 bar +/- 100m bar
<b>Type 1.422</b> 	Axial +/- 100% Lateral +/- 10%	180 °C 500 °C	+3 bar +/- 100m bar
<b>Type 2.422</b> 	Axial +/- 70% Lateral +/- 10%	180 °C 500 °C	+3 bar +/- 100m bar

### Designs

The different bellow types can be used in different operating conditions because of different material construction combinations but with equal movement compensation.

with band clamp connection	Movement capability of the distance between the piping ends in terms of percentage	Temperature range	Pressure range
<b>Type 1.012</b> 	Axial +/- 80% Lateral +/- 20%	180 °C 500 °C	+1 bar +/- 100m bar
<b>Type 1.022</b> 	Axial +/- 50% Lateral +/- 20%	180 °C 500 °C	+1 bar +/- 100m bar
<b>Type 1.421</b> 	Axial +/- 30% Lateral +/- 10%	180 °C 250 °C	+1 bar +/- 200m bar
<b>Type 1.101</b> 	Axial +/- 25% Lateral +/- 10%	180 °C 500 °C	+1 bar +/- 100m bar
<b>Type 1.072</b> 	Axial +/- 80% Lateral +/- 20%	180 °C 500 °C	+0.5 bar +/- 100m bar