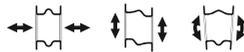




- Sizes:** Ø 80 to 4,000 mm  
 Ø up to 4,000 x 4,000 mm or 6,000 x 3,000 mm  
 Custom sizes possible
- Length:** Standard  $L_e = 150$  to 400 mm  
 Custom length on request
- Pressure:** Up to 100 bar depending on diameter and length  
 Vacuum stability on request, with embedded vacuum ring up to 0.05 bar absolute
- Movement:** For large axial, lateral and angular movements  
 For movement capabilities refer to the specific type



## Bellows elastomers and reinforcements

Elastomer	Fabric	Marking	°C	Application
EPDM	Polyamid		-40   +100	Cooling water, hot water, seawater, acids, dilute chlorine compounds
EPDM	Aramid		-40   +100	Cooling water, hot water, seawater, acids, dilute chlorine compounds
EPDMht	Aramid		-40   +120	Cooling water, hot water, seawater, acids, dilute chlorine compounds
EPDMwras	Polyamid		-40   +100	Drinking water, foodstuffs
EPDMwras	Aramid		-40   +100	Drinking water, foodstuffs
EPDMbeige	Polyamid		-40   +100	Foodstuffs
EPDMbeige	Aramid		-40   +100	Foodstuffs
IIR	Polyamid		-20   +100	Hot water, acids, bases, gases
IIR	Aramid		-20   +100	Hot water, acids, bases, gases
CSM	Polyamid		-20   +100	Strong acids, bases, chemicals
CSM	Aramid		-20   +100	Strong acids, bases, chemicals
NBR	Polyamid		-30   +100	Oils, petrol, solvents, compressed air
NBR	Aramid		-30   +100	Oils, petrol, solvents, compressed air
NBRbeige	Polyamid		-30   +100	Oil, fatty foods
NBRbeige	Aramid		-30   +100	Oil, fatty foods
CR	Polyamid		-20   +90	Cooling water, slightly oily water, seawater
CR	Aramid		-20   +90	Cooling water, slightly oily water, seawater
FPM	Aramid		-20   +180	Corrosive chemicals, petroleum distillates
FPMbeige	Aramid		-20   +180	Oil, fatty foods
NR	Polyamid		-20   +70	Abrasive materials
Silicon	Aramid Glass		-60   +200	Air, saltwater atmosphere, foodstuffs, medical technology

PTFE-lining: Specific styles are available with fluoroplastic lining which covers all wetted surfaces in the tube and flange areas

## 104 Universal expansion joints with full faced rubber flange

### Backing flanges

- Design:** Single- or multi-part round or rectangular backing flanges with clearance or threaded holes, depending from pressure with or without support collar. Optionally integral backing flanges with tie rod holders
- Flange norms:** DIN, ANSI, EN, AWWA, BS, JIS, special measurements (> page 298)
- Materials:** Carbon steel, stainless steel or aluminium
- Coating:** Primed, hot-dip galvanised, special paint

### Clamps

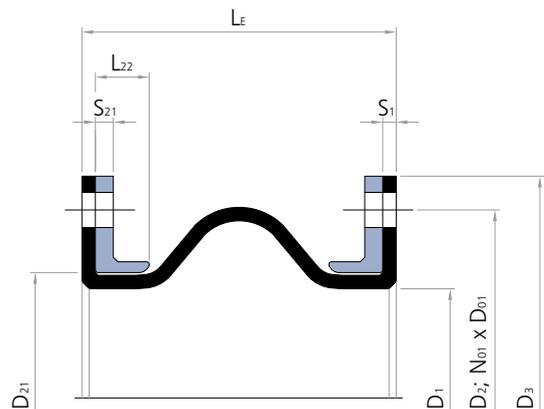
- Design:** Depending on pressure and the diameter, endless clamp belt, screw thread belt, small clamps or hinge bolt clamps. At higher pressures, 2 parallel clamps per side
- Width:** Endless clamp belt:  $\frac{3}{4}$ "  
Screw thread belt:  $\frac{1}{2}$ "  
Small clamp: depending on  $\varnothing$ : 9–12 mm  
Hinge bolt clamp: depending on  $\varnothing$ : 18–30 mm
- Materials:** Endless clamp belt with screw lugs (tongs): 1.7300  
Screw thread belt with threaded screw lugs: 1.4310  
Small clamp, belt and housing: 1.4016 (Screw steel galvanised)  
Hinge bolt clamp, belt and housing: 1.4016 (Screw steel galvanised)

### Accessories

- Protective covers:** Ground protective shield  
Protective shield or cover  
Fire protective cover (> page 58)

- Filled arch:**  (> page 42)

Cross section U110A



### Support rings

TYPE	Support rings	Vacuum ring	Pressure	Movement
U110A FDA		None	Depending on the diameter up to 100 bar, vacuum stability on request	> page 74
U112A FDA		No medium contact, embedded in the arches	Depending on the diameter up to 40 bar, for vacuum up to 0.05 bar absolute	> page 76
<b>Materials</b>				
Stainless steel, embedded		Carbon steel, embedded		



Silicon rubber expansion joints for food applications  
with aramid inserts and Tri-clamp end fittings