

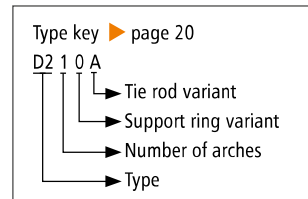
## D210A

NB 32 – NB 500

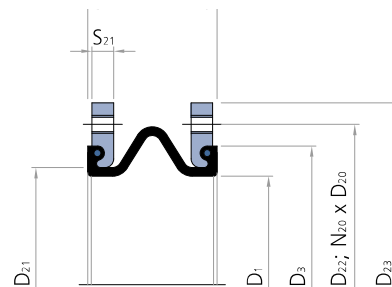


► **Type D210A**  
without vacuum support ring

► **Type D211A**  
with internal vacuum support ring



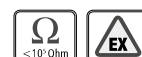
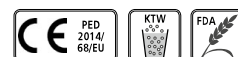
### Planning help D210A



## Universal expansion joint with one arch







- Design:** Single-arch rubber bellows with self-sealing rubber bulges and swivel backing flanges with threaded holes  
Optionally with vacuum support ring
- Nominal diameters:** NB 32 to NB 500
- Installation length:**  $L_E = 100$  or  $110$  mm (► page 120–121)
- Pressure:** Depending on the nominal diameter up to 25 bar  
Vacuum-stability on request, with vacuum support ring up to 0.05 bar absolute  
Design in accordance with Pressure Equipment Directive PED 2014/68/EU
- Movement:** For large axial, lateral and angular movements (► page 120–121)

**Application:**  
Cooling water systems,  
desalination plants,  
drinking water supply,  
plant construction, e.g.  
in pipelines, on pumps,  
as dismantling joints, on  
condensers and vessels



Assembly instruction download  
[www.ditec-adam.de/en/downloads.html](http://www.ditec-adam.de/en/downloads.html)

## Rubber bellows

Rubber	Fabric	Marking	Max.	Application
EPDM / EPDM	PEEK		120 °C	heating systems, cooling water, hot air
IIR / EPDM	Nylon		100 °C	Drinking water, seawater, acids, dilute chlorine compounds
NBR / CR	Nylon		90 °C	Cooling water, hot water, seawater, acids, dilute chlorine compounds
NBRweiß / CR	Nylon		90 °C	Drinking water
CSM / CSM	Nylon		100 °C	Drinking water
IIR-D / EPDM	Nylon		100 °C	Abrasive materials, water-sand extraction

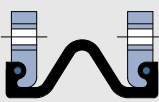
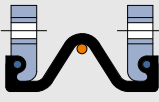
## Flanges

- Design:** Single-part, swivel, round backing flanges with threaded holes and groove to accommodate the rubber bulges
- Flange norms:** DIN, EN, ANSI, AWWA, BS, JIS, special measurements (▶ page 256)
- Materials:** Carbon steel: 1.0038 (S235JRG2)  
Other materials on request
- Coating:** Galvanised, yellow neutralised

## Optional accessories

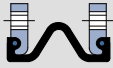
- Protective hood:** UV protection cover  
Ground protective cover  
Fire protection cover  
Splash protective cover (▶ page 44)
- Flow liners:** Cylindrical flow liner  
Conical flow liner  
Telescoping flow liner (▶ page 43)

## Support rings

TYPE		Vacuum support ring	Pressure	Movement
D210A		Without	Depending on the nominal diameter up to 25 bar, vacuum stability on request	▶ page 120
D211A		Vacuum support ring spiral, medium contact, inside the arch apex	Depending on the nominal diameter up to 25 bar, for vacuum up to 0.05 bar absolute	▶ page 121

### Materials

Stainless steel: 1.4310 (X12CrNi17-7)      Other materials on request



## D210A

▶ without vacuum support ring

Installation length ( $L_E$ ) at design pressure										
NB	up to 10 bar $L_E = 100$ mm					up to 10 bar $L_E = 110$ mm				
	higher pressures on request									
	Movement				A	Movement				A
	mm	mm	± mm	± °	cm <sup>2</sup>	mm	mm	± mm	± °	cm <sup>2</sup>
32	30	20	30	7.0	18					
40	30	20	30	7.0	18					
50	30	20	30	7.0	35					
65	30	20	30	7.0	56					
80	30	20	30	7.0	87					
100	30	20	30	7.0	130					
125	30	20	30	7.0	190					
150	30	20	30	7.0	263					
175	30	20	30	7.0	334					
200	30	20	30	7.0	416					
250	30	20	30	7.0	607					
300	30	20	30	7.0	830					
350	30	20	30	7.0	1,100					
400						30	20	30	7.0	1,385
500						30	20	30	7.0	2,091

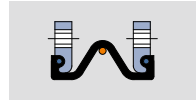
Standard sizes

In the event of axial extension and simultaneous lateral displacement (due to installation gap tolerance) the above movements are reduced (▶ page 22).

Angular movement only possible for 10 mm reduced installation length (90 / 100).



Universal expansion joint, type D110A  
in a plastic pipe of a paper plant  
NB 150, design pressure 6 bar



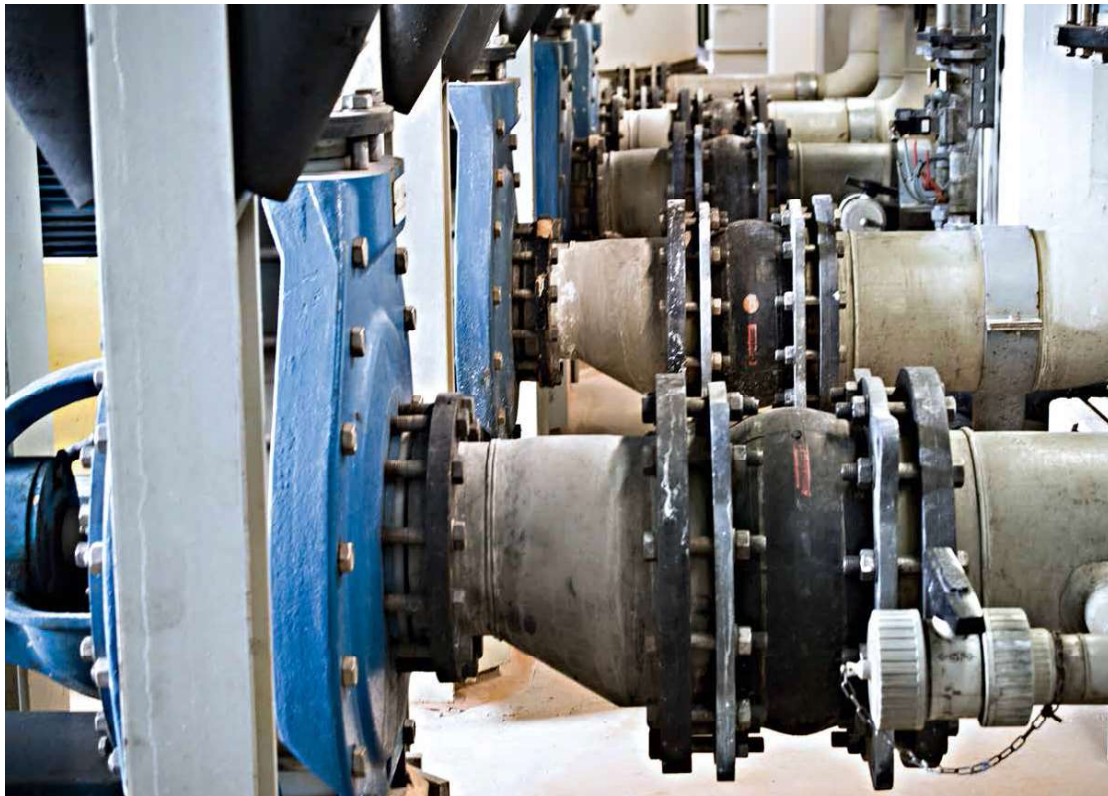
Installation length ( $L_E$ ) at design pressure										
NB	up to 10 bar $L_E = 100$ mm					up to 10 bar $L_E = 110$ mm				
	higher pressures on request									
	Movement				A	Movement				A
	mm	mm	±mm	±°	cm <sup>2</sup>	mm	mm	±mm	±°	cm <sup>2</sup>
32	30	5	20	4,0	18					
40	30	5	20	4,0	18					
50	30	5	20	4,0	35					
65	30	5	20	4,0	56					
80	30	5	20	4,0	87					
100	30	5	20	4,0	130					
125	30	5	20	4,0	190					
150	30	5	20	4,0	263					
175	30	5	20	4,0	334					
200	30	5	20	4,0	416					
250	30	5	20	4,0	607					
300	30	5	20	4,0	830					
350	30	5	20	4,0	1,100					
400						30	5	20	4,0	1,385
500						30	5	20	4,0	2,091

Standard sizes

In the event of axial extension and simultaneous lateral displacement (due to installation gap tolerance) the above movements are reduced (► page 22).

Angular movement only possible for 10 mm reduced installation length (90 / 100).

UNIVERSAL  
swivel flange



D211A

Expansion joints with swivel flanges, type D110A  
 pumping header installation  
 NB 300, operating pressure 10 bar