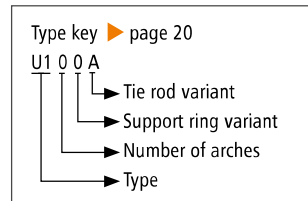


# U100A

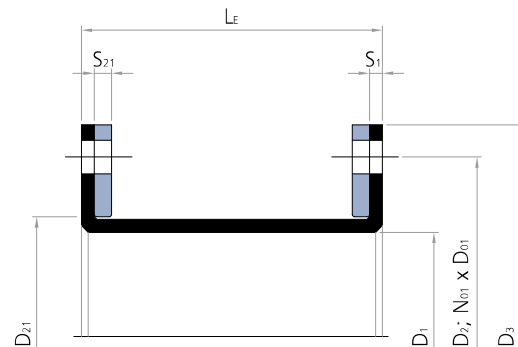
NB 100 – NB 4000



## ► Type U100A



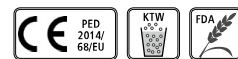
## Planning help U100A



## Universal expansion joint without arch






















- Design:** Hydrodynamic, cylindrical rubber bellows with full faced rubber flanges and single or multi-part backing flanges  
Optionally with embedded pressure or vacuum support rings
- Nominal diameters:** NB 100 to NB 4000, intermediate sizes possible
- Installation length:** Standard  $L_E = 150$  to  $400$  mm (► page 50–51)  
Other installation lengths on request
- Pressure:** Depending on the nominal diameter and installation length up to 16 bar  
Vacuum stability on request  
Design in accordance with Pressure Equipment Directive PED 2014/68/EU
- Movement:** For small axial and lateral movements (► page 50–51)

**Application:**  
 Plant construction,  
 sand/gravel extraction  
 industry, dredgers,  
 food processing e. g. as  
 suction/pressure hoses,  
 in conveyor lines, on  
 pumps 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	Nylon		100 °C	Cooling water, hot water, seawater, acids, dilute chlorine compounds
EPDM	Kevlar		100 °C	Cooling water, hot water, seawater, acids, dilute chlorine compounds
EPDMht	Kevlar		120 °C	Cooling water, hot water, seawater, acids, dilute chlorine compounds
EPDMtw	Nylon		100 °C	Drinking water
EPDMtw	Kevlar		100 °C	Drinking water
EPDMaf	Nylon		100 °C	Abrasive materials, water-sand extraction
EPDMaf	Kevlar		100 °C	Abrasive materials, water-sand extraction
EPDMbeige	Nylon		100 °C	Foodstuffs
EPDMbeige	Kevlar		100 °C	Foodstuffs
IIR	Nylon		100 °C	Hot water, acids, bases, gases
IIR	Kevlar		100 °C	Hot water, acids, bases, gases
CSM	Nylon		100 °C	Strong acids, bases, chemicals
CSM	Kevlar		100 °C	Strong acids, bases, chemicals
NBR	Nylon		100 °C	Oils, petrol, solvents, compressed air
NBR	Kevlar		100 °C	Oils, petrol, solvents, compressed air
NBRbeige	Nylon		100 °C	Oil, fatty foods
NBRbeige	Kevlar		100 °C	Oil, fatty foods
CR	Nylon		90 °C	Cooling water, slightly oily water, seawater
CR	Kevlar		90 °C	Cooling water, slightly oily water, seawater
FPM	Kevlar		180 °C	Corrosive chemicals, petroleum distillates
FPMbeige	Kevlar		180 °C	Oil, fatty foods
NR	Nylon		70 °C	Abrasive materials
Silicon	Kevlar or glass		200 °C	Air, saltwater atmosphere, foodstuffs, medical technology

PTFE-lining: Permanently embedded against chemical attacks on the interior at the rubber bellows, available starting at NB 300. Take the restriction of the listed movement into account (▶ page 50–51)

## Flanges

**Design:** Single-part or multi-part, round backing flanges with clearance holes

**Flange norms:** DIN, EN, ANSI, AWWA, BS, JIS, special measurements (▶ page 256)

**Materials:**

- Carbon steel: 1.0038 (S235JRG2)  
1.0570 (S355J2G3)
- Stainless steel: 1.4301 (X5CrNi18-10)  
1.4571 (X6CrNiMoTi17-12-2)
- Aluminium: AlMg3
- Other materials on request

**Coating:** Primed, hot-dip galvanised, special paint

## Optional accessories

**Protective covers:** 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)



## U100A

▶ without arch

Installation length (L <sub>E</sub> ) at design pressure															
NB	up to 10 bar L <sub>E</sub> = 150 mm					up to 10 bar L <sub>E</sub> = 200 mm higher pressures on request					up to 10 bar L <sub>E</sub> = 250 mm				
	Movement				A cm <sup>2</sup>	Movement				A cm <sup>2</sup>	Movement				A cm <sup>2</sup>
	mm	mm	±mm	±°		mm	mm	±mm	±°		mm	mm	±mm	±°	
100	8	5	10	0	79	10	6	13	0	79	13	8	17	0	79
125	8	5	10	0	123	10	6	13	0	123	13	8	16	0	123
150	8	5	9	0	177	10	6	12	0	177	13	8	15	0	177
175	8	5	9	0	254	10	6	12	0	254	13	8	15	0	254
200	8	5	9	0	314	10	6	12	0	314	13	8	14	0	314
250	8	5	8	0	491	10	6	11	0	491	13	8	14	0	491
300	8	5	8	0	716	10	6	11	0	716	13	8	13	0	716
350	8	5	8	0	990	10	6	10	0	990	13	8	13	0	990
400	8	5	8	0	1,269	10	6	10	0	1,269	13	8	13	0	1,269
450	8	5	7	0	1,612	10	6	10	0	1,612	13	8	12	0	1,612
500	8	5	7	0	1,987	10	6	10	0	1,987	13	8	12	0	1,987
550	8	5	7	0	2,376	10	6	9	0	2,376	13	8	12	0	2,376
600	8	5	7	0	2,856	10	6	9	0	2,856	13	8	12	0	2,856
650	8	5	7	0	3,318	10	6	9	0	3,318	13	8	11	0	3,318
700	8	5	7	0	3,893	10	6	9	0	3,893	13	8	11	0	3,893
750	8	5	7	0	4,418	10	6	9	0	4,418	13	8	11	0	4,418
800	8	5	7	0	5,090	10	6	9	0	5,090	13	8	11	0	5,090
850	8	5	6	0	5,675	10	6	9	0	5,675	13	8	11	0	5,675
900	8	5	6	0	6,433	10	6	9	0	6,433	13	8	11	0	6,433
950	8	5	6	0	7,088	10	6	8	0	7,088	13	8	11	0	7,088
1000	8	5	6	0	7,933	10	6	8	0	7,933	13	8	10	0	7,933
1050	8	5	6	0	8,659	10	6	8	0	8,659	13	8	10	0	8,659
1100	8	5	6	0	9,607	10	6	8	0	9,607	13	8	10	0	9,607
1150	8	5	6	0	10,387	10	6	8	0	10,387	13	8	10	0	10,387
1200	8	5	6	0	11,404	10	6	8	0	11,404	13	8	10	0	11,404
1250	8	5	6	0	12,272	10	6	8	0	12,272	13	8	10	0	12,272
1300	8	5	6	0	13,376	10	6	8	0	13,376	13	8	10	0	13,376
1350	8	5	6	0	14,314	10	6	8	0	14,314	13	8	10	0	14,314
1400	8	5	6	0	15,504	10	6	8	0	15,504	13	8	10	0	15,504
1450	8	5	6	0	16,513	10	6	8	0	16,513	13	8	10	0	16,513
1500	8	5	6	0	17,789	10	6	8	0	17,789	13	8	10	0	17,789
1600	8	5	6	0	20,232	10	6	8	0	20,232	13	8	10	0	20,232
1650	8	5	6	0	21,382	10	6	8	0	21,382	13	8	9	0	21,382
1700	8	5	6	0	22,832	10	6	8	0	22,832	13	8	9	0	22,832
1800	8	5	6	0	25,617	10	6	7	0	25,617	13	8	9	0	25,617
1900	8	5	6	0	28,502	10	6	7	0	28,502	13	8	9	0	28,502
1950	8	5	5	0	29,865	10	6	7	0	29,865	13	8	9	0	29,865
2000	8	5	5	0	31,573	10	6	7	0	31,573	13	8	9	0	31,573
2100	8	5	5	0	34,801	10	6	7	0	34,801	13	8	9	0	34,801
2200	8	5	5	0	38,186	10	6	7	0	38,186	13	8	9	0	38,186
2250	8	5	5	0	39,761	10	6	7	0	39,761	13	8	9	0	39,761
2300	8	5	5	0	41,728	10	6	7	0	41,728	13	8	9	0	41,728
2400	8	5	5	0	45,428	10	6	7	0	45,428	13	8	9	0	45,428
2500	8	5	5	0	49,284	10	6	7	0	49,284	13	8	9	0	49,284
2550	8	5	5	0	51,071	10	6	7	0	51,071	13	8	9	0	51,071
2600	8	5	5	0	53,297	10	6	7	0	53,297	13	8	9	0	53,297
2700	8	5	5	0	57,468	10	6	7	0	57,468	13	8	9	0	57,468
2800	8	5	5	0	61,795	10	6	7	0	61,795	13	8	9	0	61,795
2850	8	5	5	0	63,794	10	6	7	0	63,794	13	8	8	0	63,794
2900	8	5	5	0	66,280	10	6	7	0	66,280	13	8	8	0	66,280
3000	8	5	5	0	70,922	10	6	7	0	70,922	13	8	8	0	70,922
3100	8	5	5	0	75,720	10	6	7	0	75,720	13	8	8	0	75,720
3150	8	5	5	0	77,931	10	6	7	0	77,931	13	8	8	0	77,931
3200	8	5	5	0	80,676	10	6	7	0	80,676	13	8	8	0	80,676
3300	8	5	5	0	85,789	10	6	7	0	85,789	13	8	8	0	85,789
3400	8	5	5	0	91,059	10	6	7	0	91,059	13	8	8	0	91,059
3450	8	5	5	0	93,482	10	6	7	0	93,482	13	8	8	0	93,482
3600	8	5	5	0	102,071	10	6	6	0	102,071	13	8	8	0	102,071
3800	8	5	5	0	113,710	10	6	6	0	113,710	13	8	8	0	113,710
4000	8	5	5	0	125,978	10	6	6	0	125,978	13	8	8	0	125,978

Recommended sizes  
Additional possible sizes

Reduction of movement for expansion joints with PTFE lining:  
axial compression: -33 %; axial extension: -66 %; lateral displacement: -50 %.  
Larger movements see type U110A.



Installation length (L <sub>E</sub> ) at design pressure															
up to 10 bar L <sub>E</sub> = 300 mm					up to 10 bar L <sub>E</sub> = 350 mm					up to 10 bar L <sub>E</sub> = 400 mm					NB
higher pressures on request															
Movement				A	Movement				A	Movement				A	
				cm <sup>2</sup>					cm <sup>2</sup>					cm <sup>2</sup>	
mm	mm	± mm	± °		mm	mm	± mm	± °		mm	mm	± mm	± °		
15	9	20	0	79	18	11	23	0	79	20	12	27	0	79	100
15	9	19	0	123	18	11	22	0	123	20	12	25	0	123	125
15	9	18	0	177	18	11	21	0	177	20	12	24	0	177	150
15	9	18	0	254	18	11	21	0	254	20	12	24	0	254	175
15	9	17	0	314	18	11	20	0	314	20	12	23	0	314	200
15	9	17	0	491	18	11	19	0	491	20	12	22	0	491	250
15	9	16	0	716	18	11	19	0	716	20	12	21	0	716	300
15	9	15	0	990	18	11	18	0	990	20	12	21	0	990	350
15	9	15	0	1,269	18	11	18	0	1,269	20	12	20	0	1,269	400
15	9	15	0	1,612	18	11	17	0	1,612	20	12	20	0	1,612	450
15	9	14	0	1,987	18	11	17	0	1,987	20	12	19	0	1,987	500
15	9	14	0	2,376	18	11	17	0	2,376	20	12	19	0	2,376	550
15	9	14	0	2,856	18	11	16	0	2,856	20	12	19	0	2,856	600
15	9	14	0	3,318	18	11	16	0	3,318	20	12	18	0	3,318	650
15	9	13	0	3,893	18	11	16	0	3,893	20	12	18	0	3,893	700
15	9	13	0	4,418	18	11	16	0	4,418	20	12	18	0	4,418	750
15	9	13	0	5,090	18	11	15	0	5,090	20	12	18	0	5,090	800
15	9	13	0	5,675	18	11	15	0	5,675	20	12	17	0	5,675	850
15	9	13	0	6,433	18	11	15	0	6,433	20	12	17	0	6,433	900
15	9	13	0	7,088	18	11	15	0	7,088	20	12	17	0	7,088	950
15	9	13	0	7,933	18	11	15	0	7,933	20	12	17	0	7,933	1000
15	9	12	0	8,659	18	11	15	0	8,659	20	12	17	0	8,659	1050
15	9	12	0	9,607	18	11	14	0	9,607	20	12	16	0	9,607	1100
15	9	12	0	10,387	18	11	14	0	10,387	20	12	16	0	10,387	1150
15	9	12	0	11,404	18	11	14	0	11,404	20	12	16	0	11,404	1200
15	9	12	0	12,272	18	11	14	0	12,272	20	12	16	0	12,272	1250
15	9	12	0	13,376	18	11	14	0	13,376	20	12	16	0	13,376	1300
15	9	12	0	14,314	18	11	14	0	14,314	20	12	16	0	14,314	1350
15	9	12	0	15,504	18	11	14	0	15,504	20	12	16	0	15,504	1400
15	9	12	0	16,513	18	11	14	0	16,513	20	12	16	0	16,513	1450
15	9	12	0	17,789	18	11	14	0	17,789	20	12	15	0	17,789	1500
15	9	11	0	20,232	18	11	13	0	20,232	20	12	15	0	20,232	1600
15	9	11	0	21,382	18	11	13	0	21,382	20	12	15	0	21,382	1650
15	9	11	0	22,832	18	11	13	0	22,832	20	12	15	0	22,832	1700
15	9	11	0	25,617	18	11	13	0	25,617	20	12	15	0	25,617	1800
15	9	11	0	28,502	18	11	13	0	28,502	20	12	15	0	28,502	1900
15	9	11	0	29,865	18	11	13	0	29,865	20	12	15	0	29,865	1950
15	9	11	0	31,573	18	11	13	0	31,573	20	12	15	0	31,573	2000
15	9	11	0	34,801	18	11	13	0	34,801	20	12	14	0	34,801	2100
15	9	11	0	38,186	18	11	13	0	38,186	20	12	14	0	38,186	2200
15	9	11	0	39,761	18	11	12	0	39,761	20	12	14	0	39,761	2250
15	9	11	0	41,728	18	11	12	0	41,728	20	12	14	0	41,728	2300
15	9	11	0	45,428	18	11	12	0	45,428	20	12	14	0	45,428	2400
15	9	10	0	49,284	18	11	12	0	49,284	20	12	14	0	49,284	2500
15	9	10	0	51,071	18	11	12	0	51,071	20	12	14	0	51,071	2550
15	9	10	0	53,297	18	11	12	0	53,297	20	12	14	0	53,297	2600
15	9	10	0	57,468	18	11	12	0	57,468	20	12	14	0	57,468	2700
15	9	10	0	61,795	18	11	12	0	61,795	20	12	14	0	61,795	2800
15	9	10	0	63,794	18	11	12	0	63,794	20	12	14	0	63,794	2850
15	9	10	0	66,280	18	11	12	0	66,280	20	12	14	0	66,280	2900
15	9	10	0	70,922	18	11	12	0	70,922	20	12	13	0	70,922	3000
15	9	10	0	75,720	18	11	12	0	75,720	20	12	13	0	75,720	3100
15	9	10	0	77,931	18	11	12	0	77,931	20	12	13	0	77,931	3150
15	9	10	0	80,676	18	11	12	0	80,676	20	12	13	0	80,676	3200
15	9	10	0	85,789	18	11	12	0	85,789	20	12	13	0	85,789	3300
15	9	10	0	91,059	18	11	11	0	91,059	20	12	13	0	91,059	3400
15	9	10	0	93,482	18	11	11	0	93,482	20	12	13	0	93,482	3450
15	9	10	0	102,071	18	11	11	0	102,071	20	12	13	0	102,071	3600
15	9	10	0	113,710	18	11	11	0	113,710	20	12	13	0	113,710	3800
15	9	10	0	125,978	18	11	11	0	125,978	20	12	13	0	125,978	4000

Individual fabrication possible