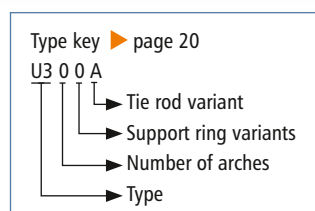


## U300A-konz U300A-exz

NB 80 – NB 1600



## Conical universal expansion joint

- Design:** Conical-concentric or conical-eccentric rubber bellows with full faced rubber flanges and single or multi-part backing flanges  
In the event of high pressure, large nominal diameters and extreme reductions with self-sealing rubber bulge and single-part swivel backing flange at the large diameter
- Nominal diameters:** NB 80 to NB 1600, intermediate sizes or other nominal diameter combinations possible
- Installation length:** Standard  $L_e = 150$  to  $2,150$  mm (▶ page 94–95)  
Other installation lengths on request
- Pressure:** Depending on the nominal diameter and installation length up to 10 bar
- Movement:** For small axial and lateral movements (▶ page 94–95)

**Application:**  
Plant construction, desulphurisation plants, sand/gravel extraction industry, dredgers, food processing e.g. in gypsum suspension conveyance lines, on pumps, vessels, as vacuum/pressure hoses



## Rubber bellows

Rubber grades			Carrier
up to 100 °C:	EPDM	Cooling water, hot water, seawater, acids, dilute chlorine compounds	Nylon fabric Kevlar fabric Polyester fabric Glass fibre fabric Steel mesh
	EPDM, drinking water approved	Drinking water	
	EPDM, white, food grade	Foodstuffs	
	EPDM, abrasion-resistant	Abrasive materials, Water-sand extraction	
	EPDM, insulating	Electrical systems construction	
	IIR	Hot water, acids, bases, gases	
	CSM	Strong acids, bases, chemicals	
	NBR	Oils, petrol, solvents, compressed air	
	NBR, bright, food grade	Oil, fatty foods	
up to 80 °C:	CR	Cooling water, slightly oily water, seawater	
up to 70 °C:	NR	Abrasive materials	
up to 150 °C:	HNBR	Oils, petrol, solvents, compressed air	
up to 180 °C:	FPM	Corrosive chemicals, petroleum distillates	
up to 200 °C:	Silicon (Q)	Air, saltwater atmosphere	
	Silicon (Q), white, food grade	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 94–95)		

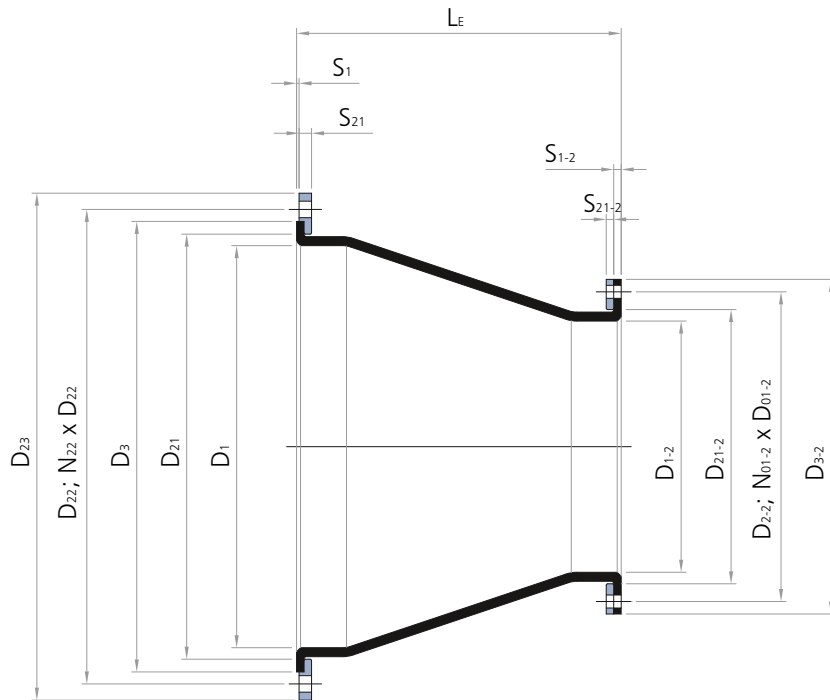
## Flanges

<b>Design:</b>	Single or multi-part round backing flanges with clearance holes For high pressure, large nominal diameters and extreme reductions, single-part round steel-backing flange with clearance holes and a groove to accommodate a rubber bulge at the large diameter
<b>Flange norms:</b>	DIN, ANSI, AWWA, BS, JIS, special measurements (▶ page 280)
<b>Materials:</b>	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
<b>Coating:</b>	Primed, hot-dip galvanised, special paint

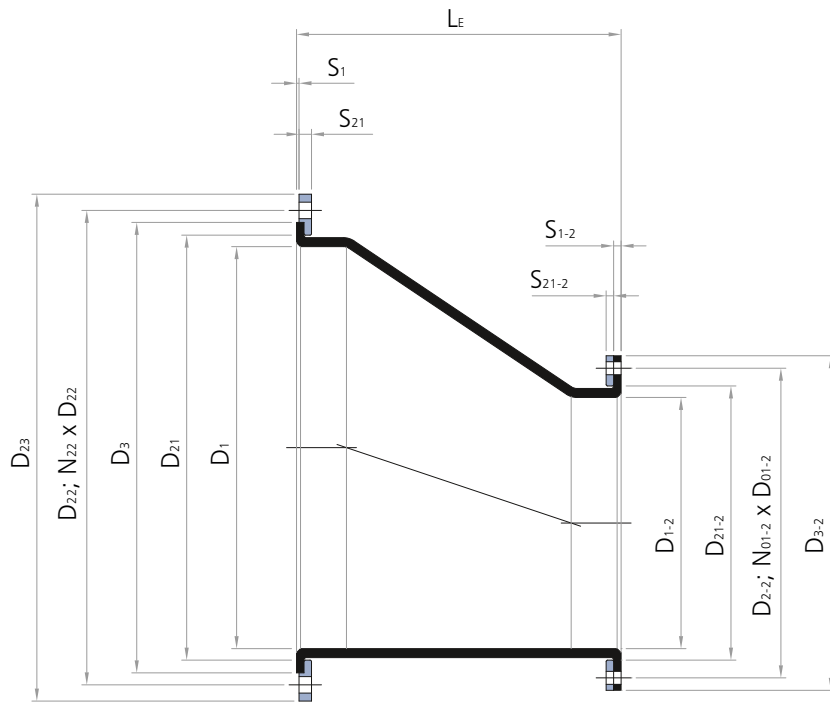
## Optional accessories

<b>Tie rods:</b>	Type U300E: Tie rods mounted outside in spherical bearings and ball disks to accommodate the reaction forces in the event of pressure
	Type U300M: Tie rods mounted outside and inside in spherical bearings and ball disks to accommodate the reaction forces in the event of pressure and vacuum
<b>Protective hoods:</b>	UV protection cover, ground protective cover, fire protection cover (▶ page 50)
<b>Flow liners:</b>	Cylindrical flow liner, conical flow liner, telescoping flow liner (▶ page 49)

Planning help U300A-konz



Planning help U300A-exz

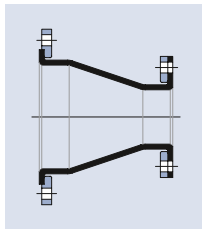




Universal expansion joints, type U300A-konz.  
on the pumps of a desulphurisation plant  
discharge side: NB 900 / NB 600, 4.5 bar, suction side: NB 900 / NB 700, 4.5 bar



Various expansion joints in the desulphurisation plant of a lignite power plant  
NB 80 – NB 900



## U300A-konz

► concentric

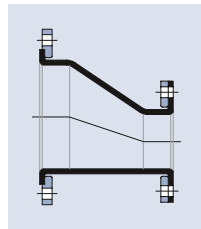





Installation length (L <sub>E</sub> ) at design pressure					
			up to 6 bar		
			higher pressures on request		
Potential combination			Movement		
NB D <sub>1</sub>	NB D <sub>1-2</sub>	Installation ≥ mm			
			mm	mm	±mm
100	80	150	2	2	5
125	80	250	3	3	7
	100	200	2	2	6
150	80	300	4	3	9
	100	250	3	3	7
	125	200	2	2	6
200	80	400	6	4	11
	100	350	5	4	9
	125	300	4	3	8
250	150	250	3	3	7
	80	550	9	6	14
	100	500	8	5	13
300	125	450	7	5	11
	150	350	6	4	9
	200	250	4	3	6
	80	650	11	7	16
350	100	600	10	6	14
	125	550	9	6	13
	150	500	8	5	12
	200	350	6	4	8
	250	300	4	3	7
	80	800	14	8	18
400	100	750	13	8	17
	125	700	12	7	16
	150	600	10	6	14
	200	500	9	5	12
	250	400	6	4	9
	300	300	4	3	7
500	100	850	15	9	19
	125	800	14	8	18
	150	750	13	8	17
	200	600	11	6	13
	250	550	9	6	12
	300	400	7	4	9
600	350	300	4	3	7
	150	1000	19	10	21
	200	850	16	9	18
	250	800	15	8	17
	300	650	12	7	14
	350	550	10	6	12
700	400	400	7	4	8
	450	300	5	3	6
	200	1100	22	11	22
	250	1050	21	11	21
	300	900	18	9	18
	350	800	16	8	16
800	400	650	13	7	13
	450	550	10	6	11
	500	400	7	4	8
	250	1300	27	13	25
	300	1150	24	12	22
	350	1050	22	11	20
900	400	900	19	9	17
	450	800	16	8	16
	500	650	13	7	13
	600	400	8	4	8
	300	1400	31	14	26
	350	1300	28	13	24
1000	400	1150	25	12	22
	450	1050	23	11	20
	500	900	20	9	17
	600	650	14	7	12
	700	400	8	4	8
	800	400	8	4	8




Installation length (L <sub>E</sub> ) at design pressure					
			up to 6 bar		
			higher pressures on request		
Potential combination			Movement		
NB D <sub>1</sub>	NB D <sub>1-2</sub>	Installation ≥ mm			
			mm	mm	±mm
900	350	1550	35	16	28
	400	1400	32	14	26
	450	1300	30	13	24
	500	1150	26	12	21
	600	900	21	9	16
	700	650	15	7	12
1000	800	400	8	4	7
	400	1650	39	17	29
	450	1550	36	16	28
	500	1400	33	14	25
	600	1150	28	12	20
	700	900	21	9	16
1100	800	650	15	7	12
	900	400	8	4	7
	450	1800	44	18	31
	500	1650	41	17	29
	600	1400	35	14	24
	700	1150	28	12	20
1200	800	900	22	9	16
	900	650	15	7	11
	1000	400	9	4	7
	500	1900	48	19	32
	600	1650	42	17	28
	700	1400	36	14	24
1300	800	1150	29	12	20
	900	900	23	9	15
	1000	650	16	7	11
	1100	400	9	4	7
	600	1900	50	19	32
	700	1650	43	17	27
1400	800	1400	37	14	23
	900	1150	30	12	19
	1000	900	23	9	15
	1100	650	16	7	11
	1200	400	9	4	7
	1300	400	9	4	7
1500	700	1900	51	19	31
	800	1650	45	17	27
	900	1400	38	14	23
	1000	1150	31	12	19
	1100	900	24	9	15
	1200	650	17	7	11
1600	1300	400	9	4	7
	800	1900	53	19	31
	900	1650	46	17	27
	1000	1400	39	14	22
	1100	1150	32	12	18
	1200	900	25	9	14
1700	1300	650	17	7	10
	1400	400	9	4	6
	900	1900	54	19	30
	1000	1650	47	17	26
	1100	1400	40	14	22
	1200	1150	33	12	18
1800	1300	900	25	9	14
	1400	650	17	7	10
	1500	400	10	4	6
	1500	400	10	4	6

The specified movements may vary depending on the design pressure.  
Reduction of movements in expansion joints with PTFE lining:  
-50 % (possible starting at D<sub>1-2</sub> = 300).

**Individual fabrication possible**



Installation length (L <sub>E</sub> ) at design pressure					
			up to 6 bar		
			higher pressures on request		
Potential combination			Movement		
NB D <sub>1</sub>	NB D <sub>1-2</sub>	Installation ≥ mm			
			mm	mm	± mm
100	80	150	2	2	5
125	80	250	3	3	7
	100	200	2	2	6
150	80	300	4	3	9
	100	250	3	3	7
	125	200	2	2	6
200	80	400	6	4	11
	100	350	5	4	9
	125	300	4	3	8
250	150	250	3	3	7
	80	600	9	6	15
	100	550	8	6	14
	125	500	7	5	13
300	150	400	6	4	10
	200	300	4	3	8
	80	700	11	7	17
	100	650	11	7	16
350	125	600	10	6	14
	150	550	9	6	13
	200	400	6	4	10
	250	350	5	4	8
	80	850	14	9	20
	100	800	13	8	18
400	125	750	12	8	17
	150	650	11	7	15
	200	550	9	6	13
	250	600	10	6	13
	300	450	7	5	10
	350	350	5	4	8
	500	100	900	16	9
125		850	15	9	19
150		800	14	8	18
200		650	11	7	15
250		900	16	9	19
300		750	13	8	16
600	350	650	11	7	14
	400	500	8	5	11
	450	400	6	4	8
	200	1200	23	12	24
	250	1150	22	12	23
	300	1000	19	10	20
700	350	900	17	9	18
	400	750	14	8	15
	450	650	11	7	13
	500	500	8	5	10
	250	1400	28	14	27
	300	1250	25	13	24
800	350	1150	23	12	22
	400	1000	20	10	19
	450	900	17	9	17
	500	750	14	8	15
	600	500	9	5	10
	300	1550	32	16	29
350	1450	30	15	27	
400	1300	27	13	24	
450	1200	24	12	23	
500	1050	21	11	20	
600	800	15	8	15	
700	550	9	6	10	

Installation length (L <sub>E</sub> ) at design pressure					
			up to 6 bar		
			higher pressures on request		
Potential combination			Movement		
NB D <sub>1</sub>	NB D <sub>1-2</sub>	Installation ≥ mm			
			mm	mm	± mm
900	350	1700	36	17	31
	400	1550	34	16	28
	450	1450	31	15	26
	500	1300	28	13	24
	600	1050	22	11	19
	700	800	16	8	15
	800	550	10	6	10
1000	400	1800	40	18	32
	450	1700	38	17	30
	500	1550	35	16	28
	600	1300	29	13	23
	700	1050	23	11	19
	800	800	16	8	14
1100	900	550	10	6	10
	450	2000	46	20	35
	500	1850	43	19	32
	600	1600	37	16	28
	700	1350	30	14	23
	800	1100	24	11	19
	900	850	17	9	15
1200	1000	600	11	6	10
	500	2100	50	21	36
	600	1850	44	19	31
	700	1600	38	16	27
	800	1350	31	14	23
	900	1100	25	11	19
	1000	850	18	9	14
1300	1100	600	11	6	10
	600	2100	52	21	35
	700	1850	45	19	31
	800	1600	39	16	27
	900	1350	32	14	22
	1000	1100	25	11	18
	1100	850	18	9	14
1400	1200	600	11	6	10
	700	2150	54	22	35
	800	1900	47	19	31
	900	1650	40	17	27
	1000	1400	34	14	23
	1100	1150	27	12	19
	1200	900	19	9	15
1500	1300	650	12	7	11
	800	2150	55	22	35
	900	1900	48	19	31
	1000	1650	42	17	27
	1100	1400	34	14	22
	1200	1150	27	12	18
	1300	900	20	9	14
1600	1400	650	12	7	10
	900	2150	57	22	34
	1000	1900	50	19	30
	1100	1650	42	17	26
	1200	1400	35	14	22
	1300	1150	28	12	18
1700	1400	900	20	9	14
	1500	650	12	7	10

The specified movements may vary depending on the design pressure.  
 Reduction of movement for expansion joints with PTFE lining:  
 -50 % (possible starting at D<sub>1-2</sub> = 300).

**Individual fabrication possible**