

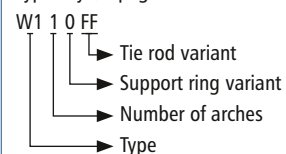
W100x (SS/FS/SF/FF) W110x (SS/FS/SF/FF)

NB 200 to NB 4000



- ▶ **Type W100x** (SS/FS/SF/FF) without arch, without vacuum support ring
- ▶ **Type W110x** (SS/FS/SF/FF) with arch, without vacuum support ring
- ▶ **Type W111x** (SS/FS/SF/FF) with arch, with vacuum support ring

Type key ▶ page 20



Wall sealing expansion joint without arch or with one arch

- Design:** Depending on the arch and nominal diameter at the wall pipe and medium pipe with full faced rubber flanges and backing flanges or with a sleeve for clamp fixing
Optionally with vacuum support ring
Optional expansion joint with a field connection for installation after the pipeline is laid
Optional allowance for potential eccentricity between the medium pipe and wall pipe
- Nominal diameters:** Standard up to NB 4000
Intermediate sizes or other nominal diameter combinations possible
- Installation length:** Standard $L_e = 150$ to 250 mm (▶ page 248–250)
Other installation lengths on request
- Pressure:** Depending on nominal diameter up to 2.5 bar
Vacuum or external pressure not allowed without vacuum support ring
- Movement:** For axial, lateral and angular movements
(▶ page 248–250)

Application:

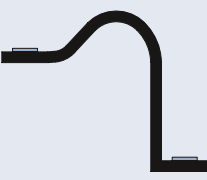
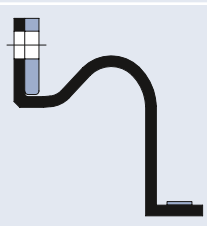
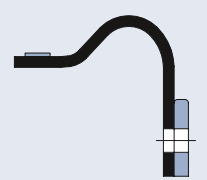
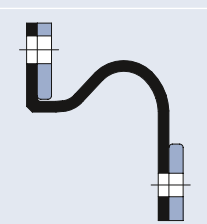
Power plants, plant construction, armature shafts, turbine houses e. g. for building settlements at pipe or vessel penetrations, ground-water seals in district heating pipelines



Rubber bellows

Rubber grades			Carrier
up to 100 °C:	EPDM	Cooling water, hot water, seawater, acids, dilute chlorine compounds	Nylon fabric Polyester fabric Kevlar fabric Glass fibre fabric Steel mesh
	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	

Fixing types

TYPE		At the wall pipe	At the medium pipe	Pressure	Nominal diameters
W110SS		Sleeve	Sleeve	slight	Wall pipe up to NB 1000
W110FS		Flange	Sleeve	slight	Medium pipe up to NB 1000
W110SF		Sleeve	Flange	slight	Wall pipe up to NB 1000
W110FF		Flange	Flange	up to 2.5 bar with vacuum support ring, tested for external pressure, up to 13 m water column	Wall pipe up to NB 4000

Flanges

Design:	Single-part or multi-part round backing flanges with clearance holes Optional support collar for high internal pressure
Flange norms:	DIN, ANSI, AWWA, BS, JIS, special measurements (► page 280)
Materials:	Carbon steel: 1.0038 (S235JRG2) 1.0570 (S355J2G3) Stainless steel: 1.4301 (X5CrNi18-10) 1.4571 (X6CrNiMoTi17-12-2) Other materials on request
Coating:	Primed, hot-dip galvanised, special paint

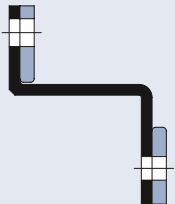
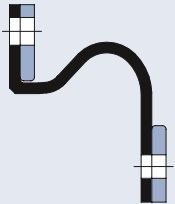
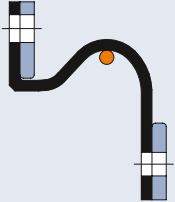
Fastening clamps

Design:	Depending on pressure and nominal diameter, endless clamp belt or hinge bolt clamps At higher pressures, 2 adjacent clamps per fastening side
Width:	Endless clamp belt: $\frac{3}{4}$ " Hinge bolt clamp: depending on \varnothing : 18 – 30 mm
Materials:	Endless clamp belt with screw lugs (tongs): 1.7300 Hinge bolt clamp, belt and housing: 1.4016 (Screw steel galvanised)

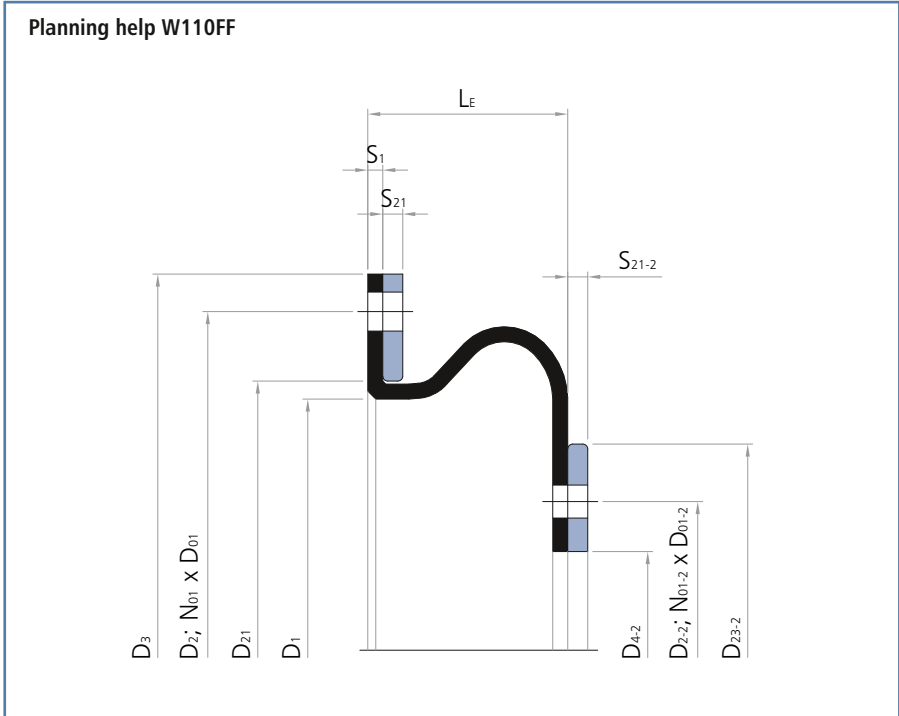
Optional accessories

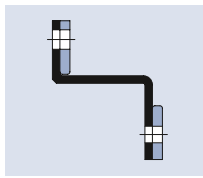
Protective hood:	UV protection cover Ground protective cover Fire protection cover (► page 50)
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Support rings

TYPE		Vacuum support ring	Pressure	Movement
W100x		Without	Depending on the nominal diameter up to 2.5 bar, for slight vacuum	▶ page 248
W110x		Without	Depending on the nominal diameter up to 2.5 bar, for slight vacuum	▶ page 249
W111x		Inside in the arch apex	Depending on nominal diameter up to 2.5 bar, tested for external pressure up to 1.3 bar	▶ page 250

Materials		
Stainless steel:	1.4301 (X5CrNi18-10) 1.4539 (X1NiCrMoCu25-20-5) 1.4571 (X6CrNiMoTi17-12-2)	Other materials on request
Carbon steel:	1.0570 (S355J2G3) rubber coated	





W100x (SS/FS/SF/FF)

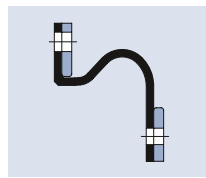
▶ without arch, without vacuum support ring



Installation length (L _E) at design pressure																
		up to 2.5 bar L _E = 150 mm					up to 2.5 bar L _E = 200 mm					up to 2.5 bar L _E = 250 mm				
		higher pressures on request														
Wall pipe NB	Medium pipe NB	Movement				A	Movement				A	Movement				A
		mm	mm	±mm	±°		mm	mm	±mm	±°		mm	mm	mm	mm	
200	80	8	5	9	2.9	314	10	6	12	3.4	314	13	8	14	4.6	314
250	100	8	5	8	2.3	491	10	6	11	2.7	491	13	8	14	3.7	491
300	125	8	5	8	1.9	716	10	6	11	2.3	716	13	8	13	3.1	716
	150	8	5	8	1.9	716	10	6	11	2.3	716	13	8	13	3.1	716
400	175	8	5	8	1.4	1,269	10	6	10	1.7	1,269	13	8	13	2.3	1,269
	200	8	5	8	1.4	1,269	10	6	10	1.7	1,269	13	8	13	2.3	1,269
500	250	8	5	7	1.1	1,987	10	6	10	1.4	1,987	13	8	12	1.8	1,987
	300	8	5	7	1.1	1,987	10	6	10	1.4	1,987	13	8	12	1.8	1,987
600	350	8	5	7	1.0	2,856	10	6	9	1.1	2,856	13	8	12	1.5	2,856
	400	8	5	7	1.0	2,856	10	6	9	1.1	2,856	13	8	12	1.5	2,856
700	450	8	5	7	0.8	3,893	10	6	9	1.0	3,893	13	8	11	1.3	3,893
	500	8	5	7	0.8	3,893	10	6	9	1.0	3,893	13	8	11	1.3	3,893
800	550	8	5	7	0.7	5,090	10	6	9	0.9	5,090	13	8	11	1.1	5,090
	600	8	5	7	0.7	5,090	10	6	9	0.9	5,090	13	8	11	1.1	5,090
900	650	8	5	6	0.6	6,433	10	6	9	0.8	6,433	13	8	11	1.0	6,433
	700	8	5	6	0.6	6,433	10	6	9	0.8	6,433	13	8	11	1.0	6,433
1000	750	8	5	6	0.6	7,933	10	6	8	0.7	7,933	13	8	10	0.9	7,933
	800	8	5	6	0.6	7,933	10	6	8	0.7	7,933	13	8	10	0.9	7,933
1100	850	8	5	6	0.5	9,590	10	6	8	0.6	9,590	13	8	10	0.8	9,590
	900	8	5	6	0.5	9,590	10	6	8	0.6	9,590	13	8	10	0.8	9,590
1200	950	8	5	6	0.5	11,404	10	6	8	0.6	11,404	13	8	10	0.8	11,404
	1000	8	5	6	0.5	11,404	10	6	8	0.6	11,404	13	8	10	0.8	11,404
1400	1050	8	5	6	0.4	15,504	10	6	8	0.5	15,504	13	8	10	0.7	15,504
	1100	8	5	6	0.4	15,504	10	6	8	0.5	15,504	13	8	10	0.7	15,504
	1150	8	5	6	0.4	15,504	10	6	8	0.5	15,504	13	8	10	0.7	15,504
	1200	8	5	6	0.4	15,504	10	6	8	0.5	15,504	13	8	10	0.7	15,504
1600	1250	8	5	6	0.4	20,232	10	6	8	0.4	20,232	13	8	10	0.6	20,232
	1300	8	5	6	0.4	20,232	10	6	8	0.4	20,232	13	8	10	0.6	20,232
	1350	8	5	6	0.4	20,232	10	6	8	0.4	20,232	13	8	10	0.6	20,232
	1400	8	5	6	0.4	20,232	10	6	8	0.4	20,232	13	8	10	0.6	20,232
1800	1450	8	5	6	0.3	25,588	10	6	7	0.4	25,588	13	8	9	0.5	25,588
	1500	8	5	6	0.3	25,588	10	6	7	0.4	25,588	13	8	9	0.5	25,588
	1600	8	5	6	0.3	25,588	10	6	7	0.4	25,588	13	8	9	0.5	25,588
2000	1650	8	5	5	0.3	31,573	10	6	7	0.3	31,573	13	8	9	0.5	31,573
	1700	8	5	5	0.3	31,573	10	6	7	0.3	31,573	13	8	9	0.5	31,573
	1800	8	5	5	0.3	31,573	10	6	7	0.3	31,573	13	8	9	0.5	31,573
2200	1900	8	5	5	0.3	38,186	10	6	7	0.3	38,186	13	8	9	0.4	38,186
	1950	8	5	5	0.3	38,186	10	6	7	0.3	38,186	13	8	9	0.4	38,186
	2000	8	5	5	0.3	38,186	10	6	7	0.3	38,186	13	8	9	0.4	38,186
2400	2100	8	5	5	0.2	45,428	10	6	7	0.3	45,428	13	8	9	0.4	45,428
	2200	8	5	5	0.2	45,428	10	6	7	0.3	45,428	13	8	9	0.4	45,428
2600	2250	8	5	5	0.2	53,297	10	6	7	0.3	53,297	13	8	9	0.4	53,297
	2300	8	5	5	0.2	53,297	10	6	7	0.3	53,297	13	8	9	0.4	53,297
	2400	8	5	5	0.2	53,297	10	6	7	0.3	53,297	13	8	9	0.4	53,297
2800	2500	8	5	5	0.2	61,795	10	6	7	0.2	61,795	13	8	9	0.3	61,795
	2550	8	5	5	0.2	61,795	10	6	7	0.2	61,795	13	8	9	0.3	61,795
	2600	8	5	5	0.2	61,795	10	6	7	0.2	61,795	13	8	9	0.3	61,795
3000	2700	8	5	5	0.2	70,922	10	6	7	0.2	70,922	13	8	8	0.3	70,922
	2800	8	5	5	0.2	70,922	10	6	7	0.2	70,922	13	8	8	0.3	70,922
3200	2850	8	5	5	0.2	80,676	10	6	7	0.2	80,676	13	8	8	0.3	80,676
	2900	8	5	5	0.2	80,676	10	6	7	0.2	80,676	13	8	8	0.3	80,676
	3000	8	5	5	0.2	80,676	10	6	7	0.2	80,676	13	8	8	0.3	80,676
3400	3100	8	5	5	0.2	91,059	10	6	7	0.2	91,059	13	8	8	0.3	91,059
	3150	8	5	5	0.2	91,059	10	6	7	0.2	91,059	13	8	8	0.3	91,059
	3200	8	5	5	0.2	91,059	10	6	7	0.2	91,059	13	8	8	0.3	91,059
3600	3300	8	5	5	0.2	102,071	10	6	6	0.2	102,071	13	8	8	0.3	102,071
	3400	8	5	5	0.2	102,071	10	6	6	0.2	102,071	13	8	8	0.3	102,071
3800	3450	8	5	5	0.2	113,710	10	6	6	0.2	113,710	13	8	8	0.2	113,710
	3600	8	5	5	0.2	113,710	10	6	6	0.2	113,710	13	8	8	0.2	113,710
4000	3800	8	5	5	0.1	125,978	10	6	6	0.2	125,978	13	8	8	0.2	125,978

In the event of axial extension and simultaneous lateral displacement the above movements are reduced (▶ page 29).
 Other installation lengths and combinations on request.
 For larger movements see type W110x.

Individual fabrication possible


Installation length (L_E) at design pressure

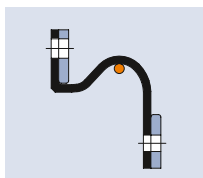
		up to 2.5 bar L _E = 150 mm					up to 2.5 bar L _E = 200 mm					up to 2.5 bar L _E = 250 mm				
		higher pressures on request					higher pressures on request					higher pressures on request				
Wall pipe NB	Medium pipe NB	Movement				A cm ²	Movement				A cm ²	Movement				A cm ²
		mm	mm	± mm	± °		mm	mm	± mm	± °		mm	mm	± mm	± °	
200	80	34	17	26	9.6	616	45	26	37	14.6	765	59	37	49	20.3	962
250	100	34	17	26	7.7	855	45	26	36	11.7	1,029	59	37	48	16.5	1,257
300	125	34	17	26	6.5	1,146	45	26	36	9.8	1,346	59	37	48	13.9	1,605
	150	34	17	26	6.5	1,146	45	26	36	9.8	1,346	59	37	48	13.9	1,605
400	175	34	17	25	4.9	1,825	45	26	35	7.4	2,075	59	37	46	10.5	2,393
	200	34	17	25	4.9	1,825	45	26	35	7.4	2,075	59	37	46	10.5	2,393
500	250	34	17	24	3.9	2,669	45	26	34	5.9	2,971	59	37	45	8.4	3,349
	300	34	17	24	3.9	2,669	45	26	34	5.9	2,971	59	37	45	8.4	3,349
600	350	34	17	24	3.2	3,664	45	26	33	5.0	4,015	59	37	45	7.0	4,453
	400	34	17	24	3.2	3,664	45	26	33	5.0	4,015	59	37	45	7.0	4,453
700	450	34	17	24	2.8	4,827	45	26	33	4.2	5,230	59	37	44	6.0	5,728
	500	34	17	24	2.8	4,827	45	26	33	4.2	5,230	59	37	44	6.0	5,728
800	550	34	17	23	2.4	6,151	45	26	33	3.7	6,604	59	37	43	5.3	7,163
	600	34	17	23	2.4	6,151	45	26	33	3.7	6,604	59	37	43	5.3	7,163
900	650	34	17	23	2.2	7,620	45	26	32	3.3	8,123	59	37	43	4.7	8,742
	700	34	17	23	2.2	7,620	45	26	32	3.3	8,123	59	37	43	4.7	8,742
1000	750	34	17	23	1.9	9,246	45	26	32	3.0	9,799	59	37	43	4.2	10,477
	800	34	17	23	1.9	9,246	45	26	32	3.0	9,799	59	37	43	4.2	10,477
1100	850	34	17	23	1.8	11,029	45	26	32	2.7	11,632	59	37	42	3.8	12,370
	900	34	17	23	1.8	11,029	45	26	32	2.7	11,632	59	37	42	3.8	12,370
1200	950	34	17	22	1.6	12,969	45	26	31	2.5	13,623	59	37	42	3.5	14,420
	1000	34	17	22	1.6	12,969	45	26	31	2.5	13,623	59	37	42	3.5	14,420
1400	1050	34	17	22	1.4	17,320	45	26	31	2.1	18,074	59	37	41	3.0	18,991
	1100	34	17	22	1.4	17,320	45	26	31	2.1	18,074	59	37	41	3.0	18,991
	1150	34	17	22	1.4	17,320	45	26	31	2.1	18,074	59	37	41	3.0	18,991
	1200	34	17	22	1.4	17,320	45	26	31	2.1	18,074	59	37	41	3.0	18,991
1600	1250	34	17	22	1.2	22,299	45	26	31	1.9	23,154	59	37	41	2.6	24,190
	1300	34	17	22	1.2	22,299	45	26	31	1.9	23,154	59	37	41	2.6	24,190
	1350	34	17	22	1.2	22,299	45	26	31	1.9	23,154	59	37	41	2.6	24,190
	1400	34	17	22	1.2	22,299	45	26	31	1.9	23,154	59	37	41	2.6	24,190
1800	1450	34	17	22	1.1	27,907	45	26	30	1.7	28,863	59	37	40	2.4	30,018
	1500	34	17	22	1.1	27,907	45	26	30	1.7	28,863	59	37	40	2.4	30,018
	1600	34	17	22	1.1	27,907	45	26	30	1.7	28,863	59	37	40	2.4	30,018
2000	1650	34	17	21	1.0	34,143	45	26	30	1.5	35,199	59	37	40	2.1	36,474
	1700	34	17	21	1.0	34,143	45	26	30	1.5	35,199	59	37	40	2.1	36,474
	1800	34	17	21	1.0	34,143	45	26	30	1.5	35,199	59	37	40	2.1	36,474
2200	1900	34	17	21	0.9	41,007	45	26	30	1.4	42,164	59	37	40	1.9	43,558
	1950	34	17	21	0.9	41,007	45	26	30	1.4	42,164	59	37	40	1.9	43,558
	2000	34	17	21	0.9	41,007	45	26	30	1.4	42,164	59	37	40	1.9	43,558
2400	2100	34	17	21	0.8	48,500	45	26	29	1.2	49,757	59	37	39	1.8	51,271
	2200	34	17	21	0.8	48,500	45	26	29	1.2	49,757	59	37	39	1.8	51,271
2600	2250	34	17	21	0.7	56,621	45	26	29	1.1	57,979	59	37	39	1.6	59,612
	2300	34	17	21	0.7	56,621	45	26	29	1.1	57,979	59	37	39	1.6	59,612
	2400	34	17	21	0.7	56,621	45	26	29	1.1	57,979	59	37	39	1.6	59,612
2800	2500	34	17	21	0.7	65,370	45	26	29	1.1	66,829	59	37	39	1.5	68,581
	2550	34	17	21	0.7	65,370	45	26	29	1.1	66,829	59	37	39	1.5	68,581
	2600	34	17	21	0.7	65,370	45	26	29	1.1	66,829	59	37	39	1.5	68,581
3000	2700	34	17	21	0.6	74,748	45	26	29	1.0	76,307	59	37	39	1.4	78,179
	2800	34	17	21	0.6	74,748	45	26	29	1.0	76,307	59	37	39	1.4	78,179
3200	2850	34	17	21	0.6	84,754	45	26	29	0.9	86,413	59	37	38	1.3	88,405
	2900	34	17	21	0.6	84,754	45	26	29	0.9	86,413	59	37	38	1.3	88,405
	3000	34	17	21	0.6	84,754	45	26	29	0.9	86,413	59	37	38	1.3	88,405
3400	3100	34	17	20	0.6	95,388	45	26	29	0.9	97,148	59	37	38	1.2	99,259
	3150	34	17	20	0.6	95,388	45	26	29	0.9	97,148	59	37	38	1.2	99,259
	3200	34	17	20	0.6	95,388	45	26	29	0.9	97,148	59	37	38	1.2	99,259
3600	3300	34	17	20	0.5	106,651	45	26	28	0.8	108,511	59	37	38	1.2	110,741
	3400	34	17	20	0.5	106,651	45	26	28	0.8	108,511	59	37	38	1.2	110,741
3800	3450	34	17	20	0.5	118,542	45	26	28	0.8	120,503	59	37	38	1.1	122,852
	3600	34	17	20	0.5	118,542	45	26	28	0.8	120,503	59	37	38	1.1	122,852
4000	3800	34	17	20	0.5	131,061	45	26	28	0.7	133,123	59	37	38	1.1	135,591

In the event of axial extension and simultaneous lateral displacement the above movements are reduced (▶ page 29).

Other installation lengths and combinations on request.

Larger movements on request.

Individual fabrication possible



W111x (SS/FS/SF/FF)

▶ with arch, with vacuum support ring



Installation length (L _E) at design pressure																
		up to 2.5 bar L _E = 150 mm					up to 2.5 bar L _E = 200 mm					up to 2.5 bar L _E = 250 mm				
		higher pressures on request														
Wall pipe NB	Medium pipe NB	Movement				A cm ²	Movement				A cm ²	Movement			A cm ²	
		mm	mm	± mm	± °		mm	mm	± mm	± °		mm	mm	± mm		mm
200	80	34	6	17	3.4	616	45	9	24	5.1	765	59	12	33	6.8	962
250	100	34	6	17	2.7	855	45	9	24	4.1	1,029	59	12	32	5.5	1,257
300	125	34	6	17	2.3	1,146	45	9	24	3.4	1,346	59	12	31	4.6	1,605
	150	34	6	17	2.3	1,146	45	9	24	3.4	1,346	59	12	31	4.6	1,605
400	175	34	6	16	1.7	1,825	45	9	23	2.6	2,075	59	12	31	3.4	2,393
	200	34	6	16	1.7	1,825	45	9	23	2.6	2,075	59	12	31	3.4	2,393
500	250	34	6	16	1.4	2,669	45	9	22	2.1	2,971	59	12	30	2.7	3,349
	300	34	6	16	1.4	2,669	45	9	22	2.1	2,971	59	12	30	2.7	3,349
600	350	34	6	16	1.1	3,664	45	9	22	1.7	4,015	59	12	29	2.3	4,453
	400	34	6	16	1.1	3,664	45	9	22	1.7	4,015	59	12	29	2.3	4,453
700	450	34	6	16	1.0	4,827	45	9	22	1.5	5,230	59	12	29	2.0	5,728
	500	34	6	16	1.0	4,827	45	9	22	1.5	5,230	59	12	29	2.0	5,728
800	550	34	6	15	0.9	6,151	45	9	22	1.3	6,604	59	12	29	1.7	7,163
	600	34	6	15	0.9	6,151	45	9	22	1.3	6,604	59	12	29	1.7	7,163
900	650	34	6	15	0.8	7,620	45	9	21	1.1	8,123	59	12	28	1.5	8,742
	700	34	6	15	0.8	7,620	45	9	21	1.1	8,123	59	12	28	1.5	8,742
1000	750	34	6	15	0.7	9,246	45	9	21	1.0	9,799	59	12	28	1.4	10,477
	800	34	6	15	0.7	9,246	45	9	21	1.0	9,799	59	12	28	1.4	10,477
1100	850	34	6	15	0.6	11,029	45	9	21	0.9	11,632	59	12	28	1.2	12,370
	900	34	6	15	0.6	11,029	45	9	21	0.9	11,632	59	12	28	1.2	12,370
1200	950	34	6	15	0.6	12,969	45	9	21	0.9	13,623	59	12	28	1.1	14,420
	1000	34	6	15	0.6	12,969	45	9	21	0.9	13,623	59	12	28	1.1	14,420
1400	1050	34	6	15	0.5	17,320	45	9	20	0.7	18,074	59	12	27	1.0	18,991
	1100	34	6	15	0.5	17,320	45	9	20	0.7	18,074	59	12	27	1.0	18,991
	1150	34	6	15	0.5	17,320	45	9	20	0.7	18,074	59	12	27	1.0	18,991
	1200	34	6	15	0.5	17,320	45	9	20	0.7	18,074	59	12	27	1.0	18,991
1600	1250	34	6	14	0.4	22,299	45	9	20	0.6	23,154	59	12	27	0.9	24,190
	1300	34	6	14	0.4	22,299	45	9	20	0.6	23,154	59	12	27	0.9	24,190
	1350	34	6	14	0.4	22,299	45	9	20	0.6	23,154	59	12	27	0.9	24,190
	1400	34	6	14	0.4	22,299	45	9	20	0.6	23,154	59	12	27	0.9	24,190
1800	1450	34	6	14	0.4	27,907	45	9	20	0.6	28,863	59	12	27	0.8	30,018
	1500	34	6	14	0.4	27,907	45	9	20	0.6	28,863	59	12	27	0.8	30,018
	1600	34	6	14	0.4	27,907	45	9	20	0.6	28,863	59	12	27	0.8	30,018
2000	1650	34	6	14	0.3	34,143	45	9	20	0.5	35,199	59	12	26	0.7	36,474
	1700	34	6	14	0.3	34,143	45	9	20	0.5	35,199	59	12	26	0.7	36,474
	1800	34	6	14	0.3	34,143	45	9	20	0.5	35,199	59	12	26	0.7	36,474
2200	1900	34	6	14	0.3	41,007	45	9	20	0.5	42,164	59	12	26	0.6	43,558
	1950	34	6	14	0.3	41,007	45	9	20	0.5	42,164	59	12	26	0.6	43,558
2400	2000	34	6	14	0.3	41,007	45	9	20	0.5	42,164	59	12	26	0.6	43,558
	2100	34	6	14	0.3	48,500	45	9	19	0.4	49,757	59	12	26	0.6	51,271
2600	2200	34	6	14	0.3	48,500	45	9	19	0.4	49,757	59	12	26	0.6	51,271
	2250	34	6	14	0.3	56,621	45	9	19	0.4	57,979	59	12	26	0.5	59,612
2800	2300	34	6	14	0.3	56,621	45	9	19	0.4	57,979	59	12	26	0.5	59,612
	2400	34	6	14	0.3	56,621	45	9	19	0.4	57,979	59	12	26	0.5	59,612
3000	2500	34	6	14	0.2	65,370	45	9	19	0.4	66,829	59	12	26	0.5	68,581
	2550	34	6	14	0.2	65,370	45	9	19	0.4	66,829	59	12	26	0.5	68,581
	2600	34	6	14	0.2	65,370	45	9	19	0.4	66,829	59	12	26	0.5	68,581
3200	2700	34	6	14	0.2	74,748	45	9	19	0.3	76,307	59	12	25	0.5	78,179
	2800	34	6	14	0.2	74,748	45	9	19	0.3	76,307	59	12	25	0.5	78,179
3400	2850	34	6	14	0.2	84,754	45	9	19	0.3	86,413	59	12	25	0.4	88,405
	2900	34	6	14	0.2	84,754	45	9	19	0.3	86,413	59	12	25	0.4	88,405
	3000	34	6	14	0.2	84,754	45	9	19	0.3	86,413	59	12	25	0.4	88,405
3600	3100	34	6	14	0.2	95,388	45	9	19	0.3	97,148	59	12	25	0.4	99,259
	3150	34	6	14	0.2	95,388	45	9	19	0.3	97,148	59	12	25	0.4	99,259
3800	3200	34	6	14	0.2	95,388	45	9	19	0.3	97,148	59	12	25	0.4	99,259
	3300	34	6	13	0.2	106,651	45	9	19	0.3	108,511	59	12	25	0.4	110,741
4000	3400	34	6	13	0.2	106,651	45	9	19	0.3	108,511	59	12	25	0.4	110,741
	3450	34	6	13	0.2	118,542	45	9	19	0.3	120,503	59	12	25	0.4	122,852
	3600	34	6	13	0.2	118,542	45	9	19	0.3	120,503	59	12	25	0.4	122,852
	3800	34	6	13	0.2	131,061	45	9	19	0.3	133,123	59	12	25	0.3	135,591

In the event of axial extension and simultaneous lateral displacement the above movements are reduced (▶ page 29).
 Other installation lengths and combinations on request.
 Larger movements on request.

Individual fabrication possible



Wall seal, type W111SS,
on a cooling water pipe in a nuclear power plant
NB 700 / NB 600, 0.25 bar from outside



... after installation of a ground protective cover