U120M ⌀ 80 - 4,000 mm

- **Type U120M**
  without vacuum rings
- **Type U121M**
  with internal vacuum rings
- **Type U122M**
  with embedded vacuum rings
- **Type U123M**
  without vacuum rings,
  with external support ring
- **Type U124M**
  with internal vacuum rings,
  with external support ring
- **Type U125M**
  with embedded vacuum rings,
  with external support ring

Type key > page 22

U1 2 3 M
- Tie rod variant
- Support ring variant
- Number of arches
- Type

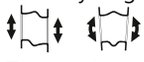
Lateral expansion joint with two arches

Design: Streamlined, double or multiple wide arch rubber bellows with full faced rubber flanges, have a cycle life in the tens of millions, constructed with a high-grade leak-proof tube, multiple layers of high-strength cord, a seamless cover, and single- or multi-part backing flanges with tie-rods borne in spherical washers. Optional with vacuum rings and/or external support ring(s). In compliance with PED 2014/68/EU, FSA Technical Handbook and ASTM F1123 - 87.

Diameters: ⌀ 80 to 4,000 mm, custom diameters possible

Length: Standard L_E = 350 to 650 mm (> page 242–247)
Custom length on request

Pressure: Up to 100 bar depending on diameter and length
Vacuum not allowed without vacuum rings, with vacuum rings up to 0.05 bar absolute

Movement: For very large lateral and angular (2 tie rod design) movements*  (> page 242–247)

Spring rate: To calculate the lateral spring rate for multiple arch joints, divide our single arch values of type U110A by the number of arches (> page 296)

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

CE PED 2014/68/EU · KTW WRAS · FDA · <10⁹ Ohm · EX

Request assembly instructions at:
www.ditec-adam.de/en/contact

*Installation gap tolerances according to axial movement capability of the expansion joint

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: Firmly embedded against chemical attacks on the interior at the rubber bellows, available starting at ∅ 300 mm. Take the restriction of the listed movement into account (> page 242–247)

Backing flanges

Design: Single- or multi-part integral backing flanges with support collar, clearance holes and tie rod holders (tie rod type B, E, C, M)

Single- or multi-part backing flanges with support collar, clearance holes and tie rod gusset plates (tie rod type R, K, L)

Flange norms: DIN, EN, ANSI, AWWA, BS, JIS, special measurements (> page 298)

Materials: Carbon steel, stainless steel

Coating: Primed, hot-dip galvanised, special paint

Accessories

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

Flow liners: Cylindrical flow liner
Conical flow liner
Telescoping flow liner (> page 57)

Filled arch:  (> page 42)

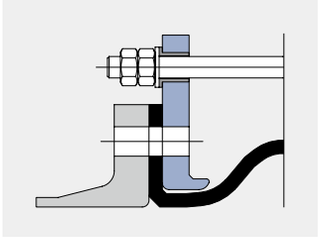
Tie rods

Design: Dimensioning according to design pressure (test pressure) based on the Pressure Equipment Directive

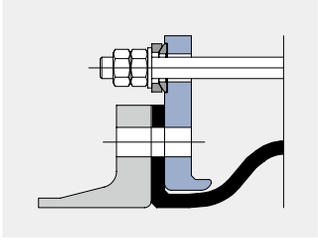
Materials: Carbon steel
Stainless steel

Coating: Spherical washers/ball disks: PTFE coated
Tie rods: galvanised, hot-dip galvanised or PTFE-coated

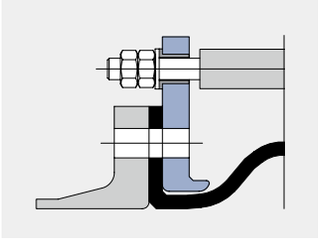
Example: Type U124M



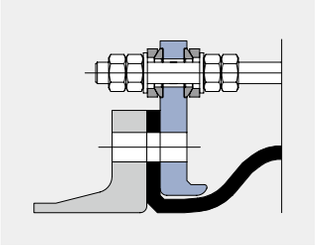
Type U120B
Tie rods mounted outside in rubber bushing to accommodate pressure thrust forces



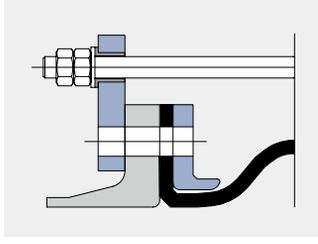
Type U120E
Tie rods mounted outside in spherical washers and ball disks to accommodate pressure thrust forces



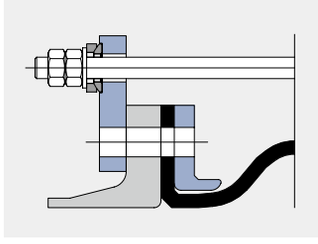
Type U120C
Tie rods mounted outside in rubber bushing and inside with compression sleeve to accommodate pressure/vacuum thrust forces



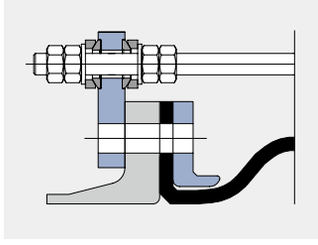
Type U120M
Tie rods mounted outside and inside in spherical washers and ball disks to accommodate pressure/vacuum thrust forces



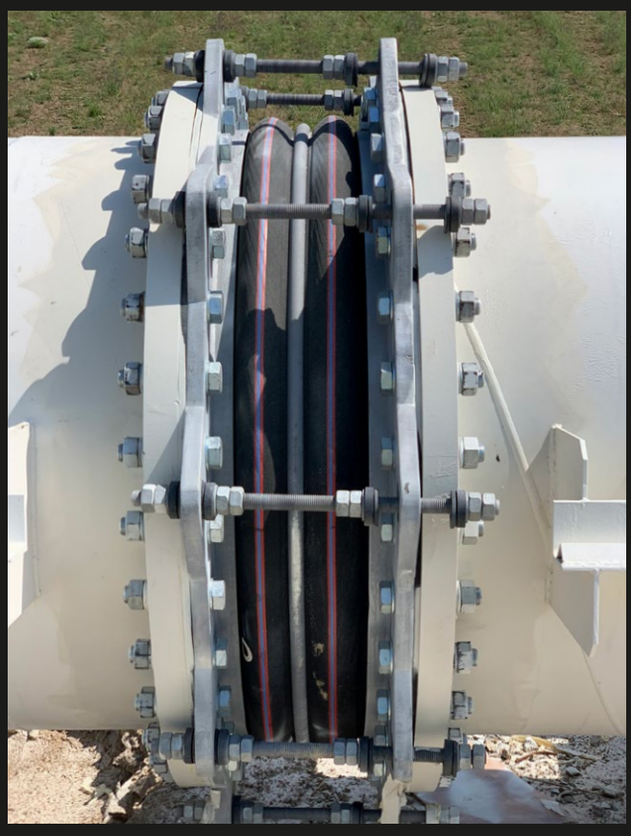
Type U120R
Gusset plate: Tie rods mounted outside in rubber bushing to accommodate pressure thrust forces



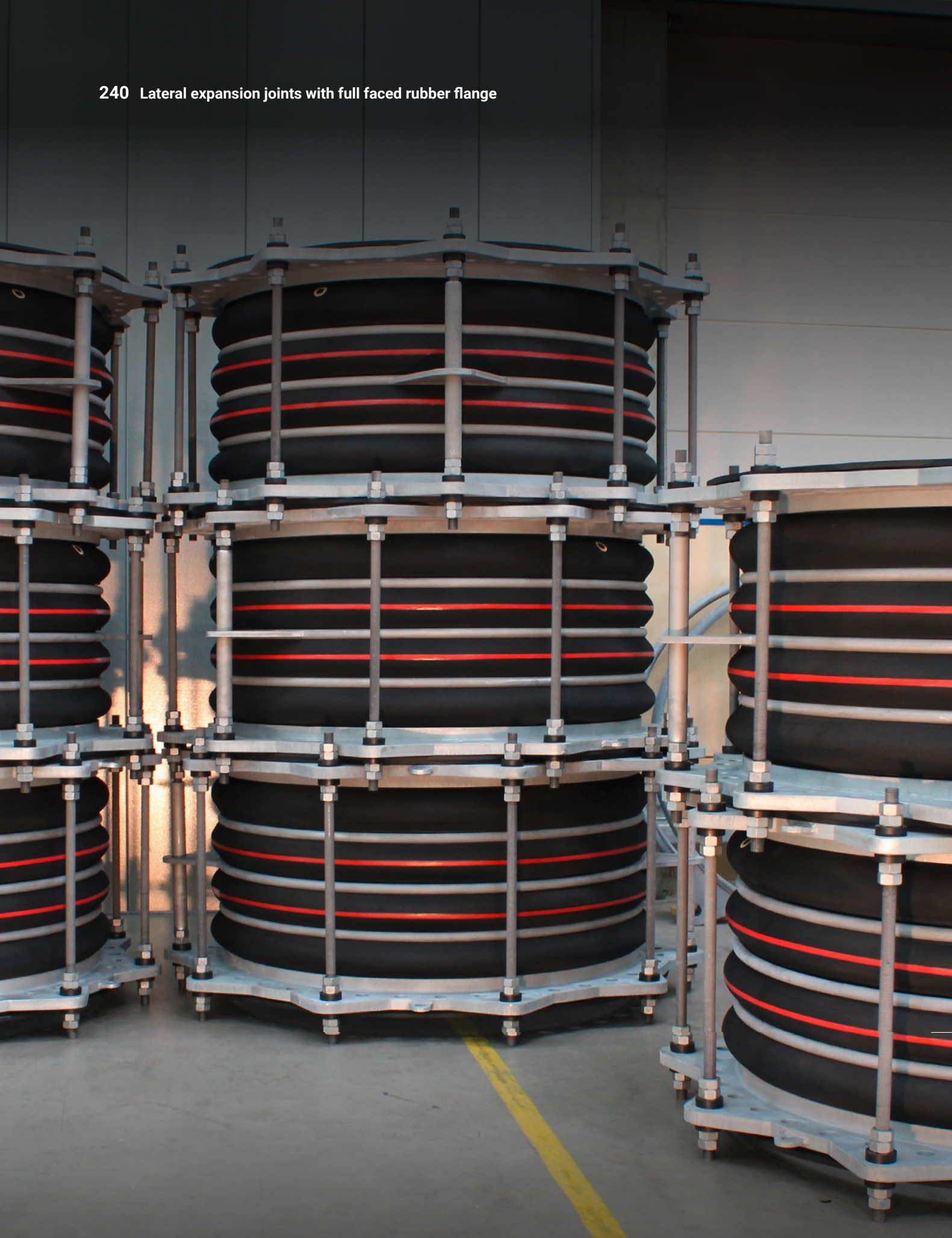
Type U120K
Gusset plate: Tie rods mounted outside in spherical washers and ball disks to accommodate pressure thrust forces



Type U120L
Gusset plate: Tie rods mounted outside and inside in spherical washers and ball disks to accommodate pressure/vacuum thrust forces

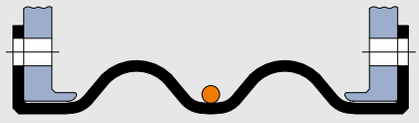
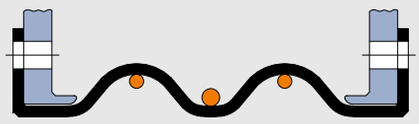
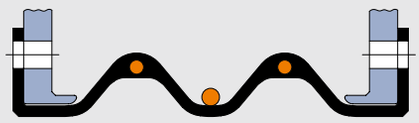


Installation of tied rubber expansion joints ⌀ 1,400 mm
in a ring water line of a copper mine



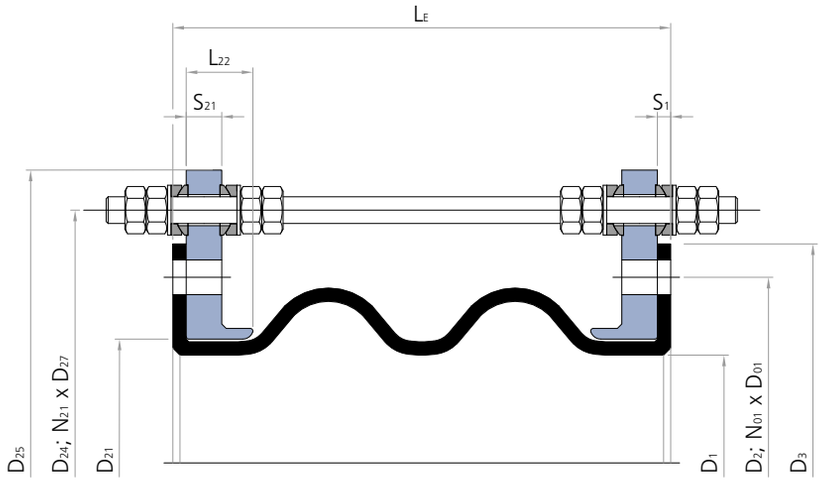
∅ 1,600 mm triple arch rubber expansion joints of type U135M installed in the feed lines of a waste water treatment plant

Support rings

TYPE	Support rings	Vacuum ring	Support ring	Pressure	Movement
U120M		None	None	Low pressure, vacuum stability on request	> page 242–243
U121M		Medium contact, inside the arches	None	Low pressure, for vacuum up to 0.05 bar absolute	> page 244–245
U122M		No medium contact, embedded in the arches	None	Low pressure, for vacuum up to 0.05 bar absolute	> page 246–247
U123M		None	External between the arches	Depending on the diameter up to 100 bar, slight vacuum	> page 242–243
U124M		Medium contact, inside the arches	External between the arches	Depending on the diameter up to 100 bar, for vacuum up to 0.05 bar absolute	> page 244–245
U125M		No medium contact, embedded in the arches	External between the arches	Depending on the diameter up to 40 bar, for vacuum up to 0.05 bar absolute	> page 246–247

Materials		
Stainless steel	Carbon steel, rubberised	Carbon steel, embedded

Cross section U120A



U120M

> without vacuum rings

U123M

> without vacuum rings, with external support ring

Installation length (L_E) at design pressure

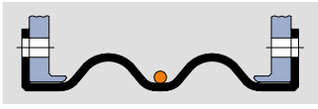
	up to 4 bar L_E = 350 mm up to 6 bar L_E = 350 mm up to 10 bar L_E = 400 mm					up to 4 bar L_E = 350 mm up to 6 bar L_E = 400 mm up to 10 bar L_E = 450 mm					up to 4 bar L_E = 400 mm up to 6 bar L_E = 450 mm up to 10 bar L_E = 500 mm				
	higher pressures on request														
	Movement				A	Movement				A	Movement				A
∅															
mm	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²
100	53	22	35	0	177	62	20	38	0	177	80	40	56	0	254
125	53	22	34	0	241	62	20	38	0	241	80	40	55	0	330
150	53	22	34	0	314	62	20	37	0	314	80	40	54	0	415
175	53	22	33	0	415	62	20	36	0	415	80	40	54	0	531
200	53	22	33	0	491	62	20	36	0	491	80	40	53	0	616
250	53	22	32	0	707	62	20	35	0	707	80	40	52	0	855
300	53	22	32	0	973	62	20	35	0	973	80	40	51	0	1,146
350	53	22	31	0	1,288	62	20	34	0	1,288	80	40	50	0	1,486
400	53	22	31	0	1,605	62	20	34	0	1,605	80	40	50	0	1,825
450	53	22	31	0	1,987	62	20	33	0	1,987	80	40	49	0	2,231
500	53	22	30	0	2,402	62	20	33	0	2,402	80	40	49	0	2,669
550						62	20	33	0	2,827	80	40	48	0	3,117
600						62	20	33	0	3,349	80	40	48	0	3,664
650						62	20	32	0	3,848	80	40	48	0	4,185
700						62	20	32	0	4,465	80	40	47	0	4,827
750						62	20	32	0	5,027	80	40	47	0	5,411
800						62	20	32	0	5,741	80	40	47	0	6,151
850						62	20	32	0	6,362	80	40	46	0	6,793
900						62	20	31	0	7,163	80	40	46	0	7,620
950						62	20	31	0	7,854	80	40	46	0	8,332
1000						62	20	31	0	8,742	80	40	46	0	9,246
1050											80	40	46	0	10,029
1100											80	40	45	0	11,047
1150											80	40	45	0	11,882
1200											80	40	45	0	12,969
1250											80	40	45	0	13,893
1300											80	40	45	0	15,066
1350											80	40	45	0	16,061
1400											80	40	44	0	17,320
1450											80	40	44	0	18,385
1500											80	40	44	0	19,731
1600											80	40	44	0	22,299
1650											80	40	44	0	23,506
1700											80	40	44	0	25,025
1800											80	40	43	0	27,937
1900											80	40	43	0	30,946
1950											80	40	43	0	32,365
2000											80	40	43	0	34,143
2100															
2200															
2250															
2300															
2400															
2500															
2550															
2600															
2700															
2800															
2850															
2900															
3000															
3100															
3150															
3200															
3300															
3400															
3450															
3600															
3800															
4000															

Recommended sizes
Further possible sizes

Reduction of movement for expansion joints with PTFE lining:
axial compression: -33 %; axial extension: -66 %; lateral displacement: -50 %.
In the event of lateral displacement and simultaneous axial extension (due to installation gap tolerance) the above movements are reduced (> page 29). Larger movements on request.

U120M

> without vacuum rings



U123M

> without vacuum rings, with external support ring

Installation length (L_E) at design pressure

up to 4 bar L_E = 450 mm up to 6 bar L_E = 500 mm up to 10 bar L_E = 550 mm					up to 4 bar L_E = 500 mm up to 6 bar L_E = 550 mm up to 10 bar L_E = 600 mm					up to 4 bar L_E = 550 mm up to 6 bar L_E = 600 mm up to 10 bar L_E = 650 mm					
higher pressures on request															
Movement				A	Movement				A	Movement				A	∅
mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm
88	41	61	0	260	106	61	79	0	353	124	82	97	0	460	**100**
88	41	60	0	337	106	61	77	0	441	124	82	95	0	560	**125**
88	41	59	0	423	106	61	76	0	539	124	82	93	0	670	**150**
88	41	58	0	539	106	61	75	0	670	124	82	92	0	814	**175**
88	41	57	0	625	106	61	74	0	765	124	82	91	0	919	**200**
88	41	56	0	866	106	61	72	0	1,029	124	82	89	0	1,207	**250**
88	41	55	0	1,158	106	61	71	0	1,346	124	82	88	0	1,548	**300**
88	41	54	0	1,500	106	61	70	0	1,713	124	82	86	0	1,940	**350**
88	41	54	0	1,840	106	61	69	0	2,075	124	82	85	0	2,324	**400**
88	41	53	0	2,248	106	61	69	0	2,507	124	82	84	0	2,781	**450**
88	41	52	0	2,688	106	61	68	0	2,971	124	82	84	0	3,267	**500**
88	41	52	0	3,137	106	61	67	0	3,442	124	82	83	0	3,761	**550**
88	41	52	0	3,685	106	61	67	0	4,015	124	82	82	0	4,359	**600**
88	41	51	0	4,208	106	61	66	0	4,560	124	82	82	0	4,927	**650**
88	41	51	0	4,852	106	61	66	0	5,230	124	82	81	0	5,621	**700**
88	41	51	0	5,437	106	61	66	0	5,836	124	82	81	0	6,249	**750**
88	41	50	0	6,179	106	61	65	0	6,604	124	82	80	0	7,044	**800**
88	41	50	0	6,822	106	61	65	0	7,268	124	82	80	0	7,729	**850**
88	41	50	0	7,651	106	61	64	0	8,123	124	82	79	0	8,610	**900**
88	41	49	0	8,365	106	61	64	0	8,858	124	82	79	0	9,366	**950**
88	41	49	0	9,280	106	61	64	0	9,799	124	82	79	0	10,333	**1000**
88	41	49	0	10,064	106	61	64	0	10,605	124	82	78	0	11,159	**1050**
88	41	49	0	11,085	106	61	63	0	11,652	124	82	78	0	12,233	**1100**
88	41	49	0	11,921	106	61	63	0	12,509	124	82	78	0	13,110	**1150**
88	41	48	0	13,009	106	61	63	0	13,623	124	82	77	0	14,250	**1200**
88	41	48	0	13,935	106	61	63	0	14,569	124	82	77	0	15,218	**1250**
88	41	48	0	15,109	106	61	62	0	15,770	124	82	77	0	16,445	**1300**
88	41	48	0	16,106	106	61	62	0	16,787	124	82	76	0	17,483	**1350**
88	41	48	0	17,366	106	61	62	0	18,074	124	82	76	0	18,796	**1400**
88	41	48	0	18,433	106	61	62	0	19,162	124	82	76	0	19,906	**1450**
88	41	47	0	19,781	106	61	62	0	20,536	124	82	76	0	21,305	**1500**
88	41	47	0	22,352	106	61	61	0	23,154	124	82	75	0	23,970	**1600**
88	41	47	0	23,561	106	61	61	0	24,384	124	82	75	0	25,221	**1650**
88	41	47	0	25,081	106	61	61	0	25,930	124	82	75	0	26,793	**1700**
88	41	47	0	27,996	106	61	61	0	28,893	124	82	74	0	29,804	**1800**
88	41	46	0	31,009	106	61	60	0	31,952	124	82	74	0	32,910	**1900**
88	41	46	0	32,429	106	61	60	0	33,394	124	82	74	0	34,373	**1950**
88	41	46	0	34,209	106	61	60	0	35,199	124	82	74	0	36,204	**2000**
88	41	46	0	37,565	106	61	60	0	38,603	124	82	73	0	39,655	**2100**
88	41	46	0	41,079	106	61	59	0	42,164	124	82	73	0	43,263	**2200**
88	41	46	0	42,712	106	61	59	0	43,818	124	82	73	0	44,938	**2250**
88	41	46	0	44,750	106	61	59	0	45,882	124	82	73	0	47,028	**2300**
88	41	45	0	48,578	106	61	59	0	49,757	124	82	72	0	50,950	**2400**
88	41	45	0	52,563	106	61	59	0	53,789	124	82	72	0	55,030	**2500**
88	41	45	0	54,408	106	61	59	0	55,655	124	82	72	0	56,917	**2550**
88	41	45	0	56,706	106	61	59	0	57,979	124	82	72	0	59,266	**2600**
88	41	45	0	61,005	106	61	58	0	62,325	124	82	72	0	63,660	**2700**
88	41	45	0	65,461	106	61	58	0	66,829	124	82	71	0	68,210	**2800**
88	41	45	0	67,518	106	61	58	0	68,906	124	82	71	0	70,309	**2850**
88	41	45	0	70,075	106	61	58	0	71,489	124	82	71	0	72,918	**2900**
88	41	45	0	74,845	106	61	58	0	76,307	124	82	71	0	77,783	**3000**
88	41	44	0	79,773	106	61	58	0	81,282	124	82	71	0	82,805	**3100**
88	41	44	0	82,041	106	61	58	0	83,571	124	82	71	0	85,116	**3150**
88	41	44	0	84,857	106	61	57	0	86,413	124	82	71	0	87,984	**3200**
88	41	44	0	90,099	106	61	57	0	91,702	124	82	70	0	93,320	**3300**
88	41	44	0	95,498	106	61	57	0	97,148	124	82	70	0	98,813	**3400**
88	41	44	0	97,979	106	61	57	0	99,650	124	82	70	0	101,336	**3450**
88	41	44	0	106,767	106	61	57	0	108,511	124	82	70	0	110,270	**3600**
88	41	44	0	118,664	106	61	57	0	120,503	124	82	70	0	122,356	**3800**
88	41	43	0	131,190	106	61	56	0	133,123	124	82	69	0	135,070	**4000**

The movement capability of the expansion joints given in the tables is determined for flange dimensions according to DIN PN10. In case of deviating flange dimensions, please contact us.

Customised products available

U121M

> with internal vacuum rings

U124M

> with internal vacuum rings, with external support ring

Installation length (L_E) at design pressure

	up to 4 bar L_E = 350 mm up to 6 bar L_E = 350 mm up to 10 bar L_E = 400 mm					up to 4 bar L_E = 350 mm up to 6 bar L_E = 400 mm up to 10 bar L_E = 450 mm					up to 4 bar L_E = 400 mm up to 6 bar L_E = 450 mm up to 10 bar L_E = 500 mm				
	higher pressures on request														
	Movement				A	Movement				A	Movement				A
∅															
mm	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²
100	53	7	35	0	177	62	7	38	0	177	80	13	56	0	254
125	53	7	34	0	241	62	7	38	0	241	80	13	55	0	330
150	53	7	34	0	314	62	7	37	0	314	80	13	54	0	415
175	53	7	33	0	415	62	7	36	0	415	80	13	54	0	531
200	53	7	33	0	491	62	7	36	0	491	80	13	53	0	616
250	53	7	32	0	707	62	7	35	0	707	80	13	52	0	855
300	53	7	32	0	973	62	7	35	0	973	80	13	51	0	1,146
350	53	7	31	0	1,288	62	7	34	0	1,288	80	13	50	0	1,486
400	53	7	31	0	1,605	62	7	34	0	1,605	80	13	50	0	1,825
450	53	7	31	0	1,987	62	7	33	0	1,987	80	13	49	0	2,231
500	53	7	30	0	2,402	62	7	33	0	2,402	80	13	49	0	2,669
550						62	7	33	0	2,827	80	13	48	0	3,117
600						62	7	33	0	3,349	80	13	48	0	3,664
650						62	7	32	0	3,848	80	13	48	0	4,185
700						62	7	32	0	4,465	80	13	47	0	4,827
750						62	7	32	0	5,027	80	13	47	0	5,411
800						62	7	32	0	5,741	80	13	47	0	6,151
850						62	7	32	0	6,362	80	13	46	0	6,793
900						62	7	31	0	7,163	80	13	46	0	7,620
950						62	7	31	0	7,854	80	13	46	0	8,332
1000						62	7	31	0	8,742	80	13	46	0	9,246
1050											80	13	46	0	10,029
1100											80	13	45	0	11,047
1150											80	13	45	0	11,882
1200											80	13	45	0	12,969
1250											80	13	45	0	13,893
1300											80	13	45	0	15,066
1350											80	13	45	0	16,061
1400											80	13	44	0	17,320
1450											80	13	44	0	18,385
1500											80	13	44	0	19,731
1600											80	13	44	0	22,299
1650											80	13	44	0	23,506
1700											80	13	44	0	25,025
1800											80	13	43	0	27,937
1900											80	13	43	0	30,946
1950											80	13	43	0	32,365
2000											80	13	43	0	34,143
2100															
2200															
2250															
2300															
2400															
2500															
2550															
2600															
2700															
2800															
2850															
2900															
3000															
3100															
3150															
3200															
3300															
3400															
3450															
3600															
3800															
4000															

Recommended sizes
Further possible sizes

Reduction of movement for expansion joints with PTFE lining:
axial compression: -33 %; axial extension: -0 %; lateral displacement: -50 %.
In the event of lateral displacement and simultaneous axial extension (due to installation gap tolerance) the above movements are reduced (> page 29). Larger movements on request.

U121M

> with internal vacuum rings

U124M

> with internal vacuum rings, with external support ring

Installation length (L_E) at design pressure

up to 4 bar L_E = 450 mm up to 6 bar L_E = 500 mm up to 10 bar L_E = 550 mm					up to 4 bar L_E = 500 mm up to 6 bar L_E = 550 mm up to 10 bar L_E = 600 mm					up to 4 bar L_E = 550 mm up to 6 bar L_E = 600 mm up to 10 bar L_E = 650 mm					
higher pressures on request															
Movement				A	Movement				A	Movement				A	∅
mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm
88	13	61	0	260	106	20	79	0	353	124	27	97	0	460	**100**
88	13	60	0	337	106	20	77	0	441	124	27	95	0	560	**125**
88	13	59	0	423	106	20	76	0	539	124	27	93	0	670	**150**
88	13	58	0	539	106	20	75	0	670	124	27	92	0	814	**175**
88	13	57	0	625	106	20	74	0	765	124	27	91	0	919	**200**
88	13	56	0	866	106	20	72	0	1,029	124	27	89	0	1,207	**250**
88	13	55	0	1,158	106	20	71	0	1,346	124	27	88	0	1,548	**300**
88	13	54	0	1,500	106	20	70	0	1,713	124	27	86	0	1,940	**350**
88	13	54	0	1,840	106	20	69	0	2,075	124	27	85	0	2,324	**400**
88	13	53	0	2,248	106	20	69	0	2,507	124	27	84	0	2,781	**450**
88	13	52	0	2,688	106	20	68	0	2,971	124	27	84	0	3,267	**500**
88	13	52	0	3,137	106	20	67	0	3,442	124	27	83	0	3,761	**550**
88	13	52	0	3,685	106	20	67	0	4,015	124	27	82	0	4,359	**600**
88	13	51	0	4,208	106	20	66	0	4,560	124	27	82	0	4,927	**650**
88	13	51	0	4,852	106	20	66	0	5,230	124	27	81	0	5,621	**700**
88	13	51	0	5,437	106	20	66	0	5,836	124	27	81	0	6,249	**750**
88	13	50	0	6,179	106	20	65	0	6,604	124	27	80	0	7,044	**800**
88	13	50	0	6,822	106	20	65	0	7,268	124	27	80	0	7,729	**850**
88	13	50	0	7,651	106	20	64	0	8,123	124	27	79	0	8,610	**900**
88	13	49	0	8,365	106	20	64	0	8,858	124	27	79	0	9,366	**950**
88	13	49	0	9,280	106	20	64	0	9,799	124	27	79	0	10,333	**1000**
88	13	49	0	10,064	106	20	64	0	10,605	124	27	78	0	11,159	**1050**
88	13	49	0	11,085	106	20	63	0	11,652	124	27	78	0	12,233	**1100**
88	13	49	0	11,921	106	20	63	0	12,509	124	27	78	0	13,110	**1150**
88	13	48	0	13,009	106	20	63	0	13,623	124	27	77	0	14,250	**1200**
88	13	48	0	13,935	106	20	63	0	14,569	124	27	77	0	15,218	**1250**
88	13	48	0	15,109	106	20	62	0	15,770	124	27	77	0	16,445	**1300**
88	13	48	0	16,106	106	20	62	0	16,787	124	27	76	0	17,483	**1350**
88	13	48	0	17,366	106	20	62	0	18,074	124	27	76	0	18,796	**1400**
88	13	48	0	18,433	106	20	62	0	19,162	124	27	76	0	19,906	**1450**
88	13	47	0	19,781	106	20	62	0	20,536	124	27	76	0	21,305	**1500**
88	13	47	0	22,352	106	20	61	0	23,154	124	27	75	0	23,970	**1600**
88	13	47	0	23,561	106	20	61	0	24,384	124	27	75	0	25,221	**1650**
88	13	47	0	25,081	106	20	61	0	25,930	124	27	75	0	26,793	**1700**
88	13	47	0	27,996	106	20	61	0	28,893	124	27	74	0	29,804	**1800**
88	13	46	0	31,009	106	20	60	0	31,952	124	27	74	0	32,910	**1900**
88	13	46	0	32,429	106	20	60	0	33,394	124	27	74	0	34,373	**1950**
88	13	46	0	34,209	106	20	60	0	35,199	124	27	74	0	36,204	**2000**
88	13	46	0	37,565	106	20	60	0	38,603	124	27	73	0	39,655	**2100**
88	13	46	0	41,079	106	20	59	0	42,164	124	27	73	0	43,263	**2200**
88	13	46	0	42,712	106	20	59	0	43,818	124	27	73	0	44,938	**2250**
88	13	46	0	44,750	106	20	59	0	45,882	124	27	73	0	47,028	**2300**
88	13	45	0	48,578	106	20	59	0	49,757	124	27	72	0	50,950	**2400**
88	13	45	0	52,563	106	20	59	0	53,789	124	27	72	0	55,030	**2500**
88	13	45	0	54,408	106	20	59	0	55,655	124	27	72	0	56,917	**2550**
88	13	45	0	56,706	106	20	59	0	57,979	124	27	72	0	59,266	**2600**
88	13	45	0	61,005	106	20	58	0	62,325	124	27	72	0	63,660	**2700**
88	13	45	0	65,461	106	20	58	0	66,829	124	27	71	0	68,210	**2800**
88	13	45	0	67,518	106	20	58	0	68,906	124	27	71	0	70,309	**2850**
88	13	45	0	70,075	106	20	58	0	71,489	124	27	71	0	72,918	**2900**
88	13	45	0	74,845	106	20	58	0	76,307	124	27	71	0	77,783	**3000**
88	13	44	0	79,773	106	20	58	0	81,282	124	27	71	0	82,805	**3100**
88	13	44	0	82,041	106	20	58	0	83,571	124	27	71	0	85,116	**3150**
88	13	44	0	84,857	106	20	57	0	86,413	124	27	71	0	87,984	**3200**
88	13	44	0	90,099	106	20	57	0	91,702	124	27	70	0	93,320	**3300**
88	13	44	0	95,498	106	20	57	0	97,148	124	27	70	0	98,813	**3400**
88	13	44	0	97,979	106	20	57	0	99,650	124	27	70	0	101,336	**3450**
88	13	44	0	106,767	106	20	57	0	108,511	124	27	70	0	110,270	**3600**
88	13	44	0	118,664	106	20	57	0	120,503	124	27	70	0	122,356	**3800**
88	13	43	0	131,190	106	20	56	0	133,123	124	27	69	0	135,070	**4000**

The movement capability of the expansion joints given in the tables is determined for flange dimensions according to DIN PN10. In case of deviating flange dimensions, please contact us.

Customised products available

U122M

> with embedded vacuum rings

U125M

> with embedded vacuum rings, with external support ring

Installation length (L_E) at design pressure

	up to 4 bar L_E = 350 mm up to 6 bar L_E = 350 mm up to 10 bar L_E = 400 mm					up to 4 bar L_E = 350 mm up to 6 bar L_E = 400 mm up to 10 bar L_E = 450 mm					up to 4 bar L_E = 400 mm up to 6 bar L_E = 450 mm up to 10 bar L_E = 500 mm				
	higher pressures on request														
	Movement				A	Movement				A	Movement				A
∅															
mm	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²
100	35	7	35	0	177	41	5	36	0	150	52	12	54	0	222
125	35	7	34	0	241	41	5	35	0	209	52	12	53	0	293
150	35	7	34	0	314	41	5	35	0	278	52	12	52	0	373
175	35	7	33	0	415	41	5	34	0	373	52	12	51	0	483
200	35	7	33	0	491	41	5	34	0	445	52	12	51	0	564
250	35	7	32	0	707	41	5	33	0	651	52	12	50	0	794
300	35	7	32	0	973	41	5	32	0	908	52	12	49	0	1,075
350	35	7	31	0	1,288	41	5	32	0	1,213	52	12	48	0	1,405
400	35	7	31	0	1,605	41	5	32	0	1,521	52	12	48	0	1,735
450	35	7	31	0	1,987	41	5	31	0	1,893	52	12	47	0	2,132
500	35	7	30	0	2,402	41	5	31	0	2,299	52	12	47	0	2,561
550						41	5	31	0	2,715	52	12	46	0	3,000
600						41	5	30	0	3,227	52	12	46	0	3,536
650						41	5	30	0	3,718	52	12	45	0	4,049
700						41	5	30	0	4,324	52	12	45	0	4,681
750						41	5	30	0	4,877	52	12	45	0	5,255
800						41	5	30	0	5,581	52	12	45	0	5,986
850						41	5	30	0	6,193	52	12	44	0	6,619
900						41	5	29	0	6,984	52	12	44	0	7,436
950						41	5	29	0	7,667	52	12	44	0	8,139
1000						41	5	29	0	8,544	52	12	44	0	9,043
1050											52	12	44	0	9,817
1100											52	12	43	0	10,825
1150											52	12	43	0	11,652
1200											52	12	43	0	12,728
1250											52	12	43	0	13,643
1300											52	12	43	0	14,806
1350											52	12	43	0	15,792
1400											52	12	42	0	17,041
1450											52	12	42	0	18,098
1500											52	12	42	0	19,433
1600											52	12	42	0	21,983
1650											52	12	42	0	23,181
1700											52	12	42	0	24,689
1800											52	12	41	0	27,582
1900											52	12	41	0	30,573
1950											52	12	41	0	31,984
2000											52	12	41	0	33,751
2100															
2200															
2250															
2300															
2400															
2500															
2550															
2600															
2700															
2800															
2850															
2900															
3000															
3100															
3150															
3200															
3300															
3400															
3450															
3600															
3800															
4000															

Recommended sizes
Further possible sizes

Reduction of movement for expansion joints with PTFE lining:
axial compression: -0 %; axial extension: -0 %; lateral displacement: -0 %.
In the event of lateral displacement and simultaneous axial extension (due to installation gap tolerance) the above movements are reduced (> page 29). Larger movements on request.

U122M

> with embedded vacuum rings

U125M

> with embedded vacuum rings, with external support ring

Installation length (L_E) at design pressure

up to 4 bar L_E = 450 mm up to 6 bar L_E = 500 mm up to 10 bar L_E = 550 mm					up to 4 bar L_E = 500 mm up to 6 bar L_E = 550 mm up to 10 bar L_E = 600 mm					up to 4 bar L_E = 550 mm up to 6 bar L_E = 600 mm up to 10 bar L_E = 650 mm					
higher pressures on request															
Movement				A	Movement				A	Movement				A	∅
mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm
58	12	59	0	232	70	19	77	0	320	82	26	95	0	423	**100**
58	12	58	0	305	70	19	75	0	405	82	26	93	0	519	**125**
58	12	57	0	387	70	19	74	0	499	82	26	91	0	625	**150**
58	12	56	0	499	70	19	73	0	625	82	26	90	0	765	**175**
58	12	55	0	581	70	19	72	0	716	82	26	89	0	866	**200**
58	12	54	0	814	70	19	71	0	973	82	26	87	0	1,146	**250**
58	12	53	0	1,099	70	19	69	0	1,282	82	26	86	0	1,479	**300**
58	12	52	0	1,432	70	19	69	0	1,640	82	26	85	0	1,863	**350**
58	12	52	0	1,765	70	19	68	0	1,995	82	26	84	0	2,240	**400**
58	12	51	0	2,165	70	19	67	0	2,419	82	26	83	0	2,688	**450**
58	12	51	0	2,597	70	19	66	0	2,875	82	26	82	0	3,167	**500**
58	12	50	0	3,039	70	19	66	0	3,339	82	26	81	0	3,653	**550**
58	12	50	0	3,578	70	19	65	0	3,904	82	26	81	0	4,243	**600**
58	12	50	0	4,094	70	19	65	0	4,441	82	26	80	0	4,803	**650**
58	12	49	0	4,729	70	19	64	0	5,102	82	26	79	0	5,489	**700**
58	12	49	0	5,307	70	19	64	0	5,701	82	26	79	0	6,110	**750**
58	12	49	0	6,041	70	19	64	0	6,461	82	26	78	0	6,896	**800**
58	12	48	0	6,677	70	19	63	0	7,118	82	26	78	0	7,574	**850**
58	12	48	0	7,497	70	19	63	0	7,964	82	26	78	0	8,446	**900**
58	12	48	0	8,203	70	19	63	0	8,692	82	26	77	0	9,195	**950**
58	12	48	0	9,110	70	19	62	0	9,625	82	26	77	0	10,153	**1000**
58	12	47	0	9,887	70	19	62	0	10,423	82	26	77	0	10,973	**1050**
58	12	47	0	10,899	70	19	62	0	11,461	82	26	76	0	12,037	**1100**
58	12	47	0	11,728	70	19	61	0	12,311	82	26	76	0	12,908	**1150**
58	12	47	0	12,808	70	19	61	0	13,417	82	26	76	0	14,040	**1200**
58	12	47	0	13,726	70	19	61	0	14,356	82	26	75	0	15,001	**1250**
58	12	47	0	14,892	70	19	61	0	15,548	82	26	75	0	16,218	**1300**
58	12	46	0	15,881	70	19	61	0	16,559	82	26	75	0	17,250	**1350**
58	12	46	0	17,134	70	19	60	0	17,837	82	26	75	0	18,554	**1400**
58	12	46	0	18,194	70	19	60	0	18,918	82	26	74	0	19,656	**1450**
58	12	46	0	19,532	70	19	60	0	20,283	82	26	74	0	21,047	**1500**
58	12	46	0	22,088	70	19	60	0	22,885	82	26	74	0	23,697	**1600**
58	12	46	0	23,289	70	19	60	0	24,108	82	26	73	0	24,941	**1650**
58	12	45	0	24,801	70	19	59	0	25,645	82	26	73	0	26,504	**1700**
58	12	45	0	27,700	70	19	59	0	28,592	82	26	73	0	29,498	**1800**
58	12	45	0	30,698	70	19	59	0	31,636	82	26	73	0	32,589	**1900**
58	12	45	0	32,111	70	19	59	0	33,071	82	26	72	0	34,045	**1950**
58	12	45	0	33,882	70	19	58	0	34,867	82	26	72	0	35,867	**2000**
58	12	45	0	37,223	70	19	58	0	38,256	82	26	72	0	39,303	**2100**
58	12	44	0	40,721	70	19	58	0	41,801	82	26	72	0	42,895	**2200**
58	12	44	0	42,346	70	19	58	0	43,447	82	26	71	0	44,563	**2250**
58	12	44	0	44,376	70	19	58	0	45,503	82	26	71	0	46,645	**2300**
58	12	44	0	48,188	70	19	58	0	49,363	82	26	71	0	50,551	**2400**
58	12	44	0	52,158	70	19	57	0	53,379	82	26	71	0	54,615	**2500**
58	12	44	0	53,995	70	19	57	0	55,238	82	26	71	0	56,495	**2550**
58	12	44	0	56,284	70	19	57	0	57,553	82	26	71	0	58,836	**2600**
58	12	44	0	60,568	70	19	57	0	61,883	82	26	70	0	63,213	**2700**
58	12	43	0	65,008	70	19	57	0	66,371	82	26	70	0	67,748	**2800**
58	12	43	0	67,058	70	19	57	0	68,442	82	26	70	0	69,840	**2850**
58	12	43	0	69,606	70	19	57	0	71,016	82	26	70	0	72,440	**2900**
58	12	43	0	74,361	70	19	56	0	75,818	82	26	70	0	77,289	**3000**
58	12	43	0	79,273	70	19	56	0	80,777	82	26	69	0	82,295	**3100**
58	12	43	0	81,534	70	19	56	0	83,060	82	26	69	0	84,599	**3150**
58	12	43	0	84,342	70	19	56	0	85,893	82	26	69	0	87,459	**3200**
58	12	43	0	89,568	70	19	56	0	91,166	82	26	69	0	92,779	**3300**
58	12	43	0	94,951	70	19	56	0	96,597	82	26	69	0	98,256	**3400**
58	12	43	0	97,425	70	19	56	0	99,091	82	26	69	0	100,772	**3450**
58	12	42	0	106,188	70	19	55	0	107,928	82	26	68	0	109,682	**3600**
58	12	42	0	118,054	70	19	55	0	119,888	82	26	68	0	121,736	**3800**
58	12	42	0	130,548	70	19	55	0	132,477	82	26	68	0	134,419	**4000**

The movement capability of the expansion joints given in the tables is determined for flange dimensions according to DIN PN10. In case of deviating flange dimensions, please contact us.

Customised products available