

Expansion joints



PTFE-Expansion Joints, 2 Convolutes (Class 150)

Our expansion joints are highly flexible and provide for the compensation of vibrations and heat-induced expansion in your production line. The possible absorption of movement is increased by the number of convolutes. Expansion joints with 2 convolutes allow the highest working pressures.



PTFE-Expansion Joints, 2 Convolutes (Class 150)

Lining material:

- PTFE (virgin or conductive)

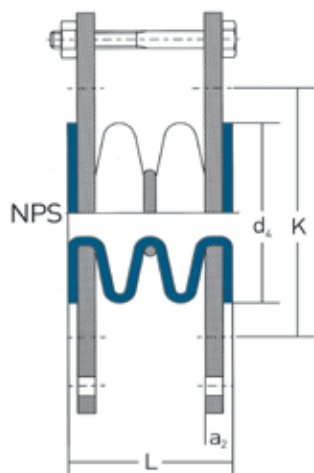
Different lining thicknesses and flange connections upon request.

Flange design:

- loose-loose

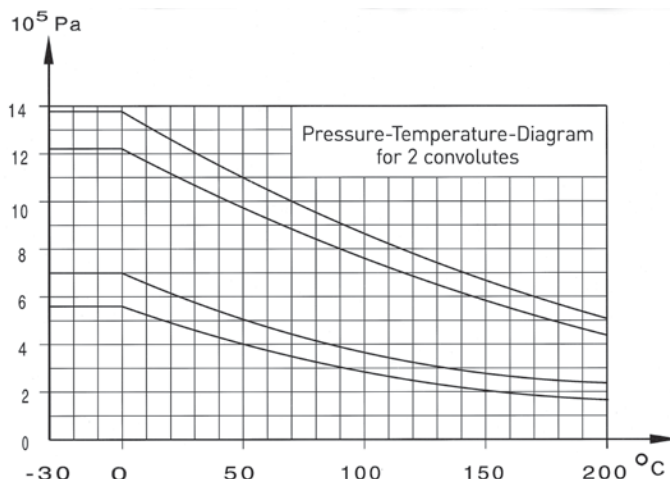
Material: carbon steel and stainless steel

Special features: earthing studs, final painting.



NPS ½" - 4"
NPS 5" - 6"

NPS 8" - 10"
NPS 12" - 20"



NPS	L (mm)	Extension compression ± (mm)	Misalign- ment max. (mm)	Angular deflection max. °	Vacuum resistance at				d ₄ (mm)	K (mm)	a ₂ (mm)	no. of bolts x thread	Weight (ca. kg/ pc.)
					10 ⁵ Pa	max. °C	10 ⁵ Pa	max. °C					
½"	28	4	2	7	-1,00	200			35,1	60,55	11,00	4 x ½" UNC	1,6
¾"	28	4	2	7	-1,00	200			42,9	69,9	11,00	4 x ½" UNC	1,6
1"	35	6	3	7	-1,00	200			50,8	79,2	11,00	4 x ½" UNC	1,6
1¼"	35	6	3	7	-1,00	200			63,5	88,9	13,00	4 x ½" UNC	2,0
1½"	35	6	3	7	-1,00	200			73,2	98,6	13,00	4 x ½" UNC	2,5
2"	40	6	3	7	-1,00	200			91,9	120,7	15,00	4 x ⅝" UNC	3,6
2½"	57	9	5	7	-1,00	200			104,6	139,7	15,00	4 x ⅝" UNC	4,4
3"	57	9	5	7	-1,00	200			127,0	152,4	15,50	4 x ⅝" UNC	5,2
4"	67	13	6	7	-1,00	200			157,2	190,5	19,00	8 x ⅝" UNC	6,9
5"	83	13	6	7	-1,00	150			185,7	215,9	19,25	8 x ¾" UNC	11,2
6"	75	13	6	7	-1,00	150			215,9	241,3	23,00	8 x ¾" UNC	12,3
8"	102	13	6	7	-1,00	50	2,00	150	269,7	298,5	25,00	8 x ¾" UNC	20,0
10"	140	15	6	7	-0,93	45	-0,66	100	323,9	362,0	28,00	12 x 7/8" UNC	26,0
12"	150	20	10	7	-0,85	45	-0,33	100	381,0	431,8	31,00	12 x 7/8" UNC	33,0
14"	160	20	10	7	-0,85	45	-0,33	100	412,8	476,3	32,00	12 x 1" UNC	57,0
16"	178	25	10	7	-0,85	45	-0,33	100	469,9	539,8	34,50	16 x 1" UNC	72,0
18"	185	25	10	7	-0,66	45	-0,30	100	533,4	577,9	38,50	16 x 1 1/8" UNC	79,0
20"	230	25	10	7	-0,20	45	-0,13	100	584,2	635,0	40,50	20 x 1 1/8" UNC	83,0

The above shown chart is only valid at neutral length and with limit bolts in place. Above mentioned types of travel (extension compression, misalignment or angular deflection) are alternatives; the percentage values must not exceed 100% when added together.

The figures stated are average and apply to room temperature.

Important notice to the holes of the expansion joint flanges:
bolt circle - with threaded holes from ½" to 24"
other design - upon request

PTFE-Expansion Joints, 2 Convolutes (Class 300) upon request.

L = Total length

d₄ = Flaring diameter

K = Bolt circle

a₂ = Length with loose flange
(standard lining)

PTFE-expansion joints, 2 Convolutes - New design (Class 150)

Execution:

- choose type of flanges (2 or 3 ears)
- up to diameter nominal DN65: with threaded holes
- up to diameter nominal DN80: with through holes

Lining material:

- PTFE (virgin or conductive)

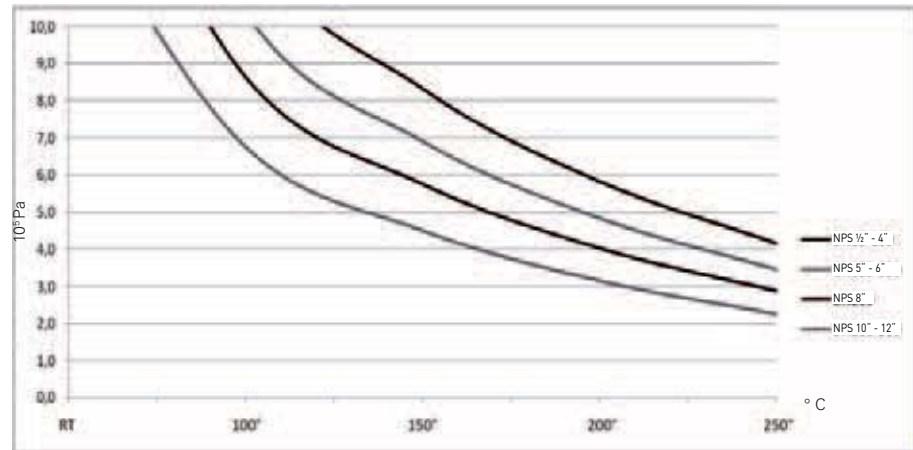
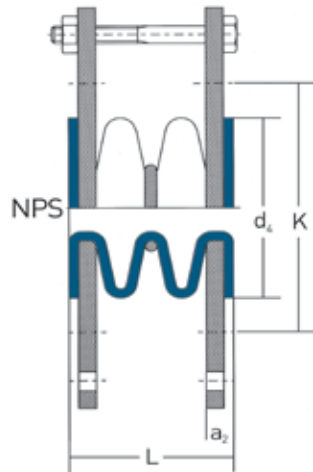
Different lining thicknesses and pressure rates on request.

Flange design:

- loose-loose

Material: carbon steel and stainless steel

Special features: earthing studs, final painting.



NPS	L (mm)	Extension compression ± (mm)	Misalign- ment max. (mm)	Angular deflec- tion max. °	Vacuum resistance at				d ₄ (mm)	K (mm)	a ₂ (mm)	no. of bolts x thread	Weight (ca. kg/ piece)
					10 ⁵ Pa	max. °C	10 ⁵ Pa	max. °C					
1/2"	54	6	3	7	-1,00	200			35,1	60,55	11,00	4 x 1/2" UNC	1,6
3/4"	54	6	3	7	-1,00	200			42,9	69,9	11,00	4 x 1/2" UNC	1,6
1"	54	6	3	7	-1,00	200			50,8	79,2	11,00	4 x 1/2" UNC	1,6
1 1/4"	56	6	3	7	-1,00	200			63,5	88,9	13,00	4 x 1/2" UNC	2,0
1 1/2"	56	6	3	7	-1,00	200			73,2	98,6	13,00	4 x 1/2" UNC	2,5
2"	68	10	3	7	-1,00	200			91,9	120,7	15,00	4 x 5/8" UNC	3,6
2 1/2"	78	12	5	7	-1,00	200			104,6	139,7	15,00	4 x 5/8" UNC	4,4
3"	88	15	5	7	-1,00	200			127,0	152,4	15,50	4 x 19,1 ASA	5,2
4"	88	15	6	7	-1,00	200			157,2	190,5	19,00	8 x 19,1 ASA	6,9
5"	95	15	6	7	-1,00	150			185,7	215,9	19,25	8 x 22,4 ASA	11,2
6"	105	15	6	7	-1,00	150			215,9	241,3	23,00	8 x 22,4 ASA	12,3
8"	110	15	6	7	-1,00	50	2,00	150	269,7	298,5	25,00	8 x 22,4 ASA	20,0
10"	128	20	6	7	-0,93	45	-0,66	100	323,9	362,0	28,00	12 x 25,4 ASA	26,0
12"	140	20	10	7	-0,85	45	-0,33	100	381,0	431,8	31,00	12 x 25,4 ASA	33,0

L = Total length

d₄ = Flaring diameter

K = Bolt circle

a₂ = Length with loose flange
(standard lining)

PTFE-expansion joints, 3 Convolute (Class 150)

Our expansion joints are highly flexible and provide for the compensation of vibrations and heat-induced expansion in your production line. The possible absorption of movement is increased by the number of convolutes. Expansion joints with 3 convolutes are the standard solution for most of the applications.



PTFE-Expansion Joints, 3 Convolutes (Class 150)

Lining material:

- PTFE (virgin or conductive)

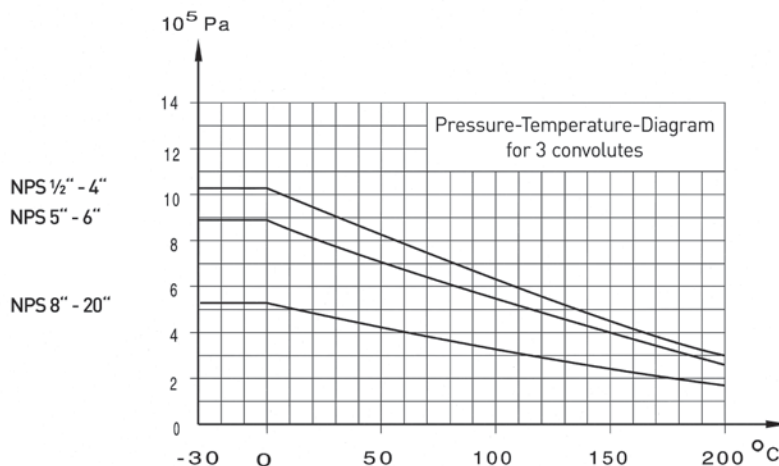
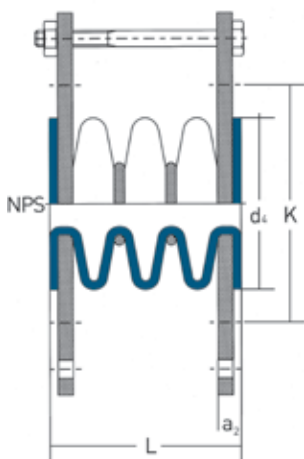
Different lining thicknesses and pressure rates on request.

Flange design:

- loose-loose

Material: carbon steel and stainless steel

Special features: earthing studs, final painting.



NPS	L (mm)	Extension compression ± (mm)	Misalign- ment max. (mm)	Angular deflection max. °	Vacuum resistance at				d ₄ (mm)	K (mm)	a ₂ (mm)	no. of bolts x thread	Weight (ca. kg/ piece)
					10 ⁵ Pa	max. °C	10 ⁵ Pa	max. °C					
1/2"	37	6	4	14	-1,00	200			35,1	60,5	11,00	4 x 1/2" UNC	1,7
3/4"	37	6	4	14	-1,00	200			42,9	69,9	11,00	4 x 1/2" UNC	1,7
1"	46	13	6	14	-1,00	200			50,8	79,2	11,00	4 x 1/2" UNC	1,7
1 1/4"	46	13	6	14	-1,00	200			63,5	88,9	13,00	4 x 1/2" UNC	2,1
1 1/2"	46	13	6	14	-1,00	200			73,2	98,6	13,00	4 x 1/2" UNC	2,6
2"	56	15	9	14	-1,00	200			91,9	120,7	15,00	4 x 5/8" UNC	3,8
2 1/2"	77	19	9	14	-1,00	200			104,6	139,7	15,00	4 x 5/8" UNC	4,6
3"	77	25	13	14	-1,00	200			127,0	152,4	15,50	4 x 5/8" UNC	5,3
4"	91	25	13	14	-1,00	200			157,2	190,5	19,00	8 x 5/8" UNC	7,0
5"	111	25	14	14	-1,00	150			185,7	215,9	19,25	8 x 3/4" UNC	11,4
6"	101	28	14	14	-1,00	150			215,9	241,3	23,00	8 x 3/4" UNC	12,7
8"	137	28	14	14	-1,00	50	-0,80	150	269,7	298,5	25,00	8 x 3/4" UNC	21,0
10"	200	30	14	14	-0,93	45	-0,66	100	323,9	362,0	28,00	12 x 7/8" UNC	27,0
12"	196	30	15	14	-0,85	45	-0,33	100	381,0	431,8	31,00	12 x 7/8" UNC	35,0
14"	215	32	18	14	-0,85	45	-0,33	100	412,8	476,3	32,00	12 x 1" UNC	60,0
16"	233	35	20	14	-0,85	45	-0,33	100	469,9	539,8	34,50	16 x 1" UNC	75,0
18"	280	30	20	14	-0,66	45	-0,30	100	533,4	577,9	38,50	16 x 1 1/8" UNC	91,0
20"	327	30	25	14	---	---	-0,13	100	584,2	635,0	40,50	20 x 1 1/8" UNC	110,0

The above shown chart is only valid at neutral length and with limit bolts in place. Above mentioned types of travel (extension compression, misalignment or angular deflection) are alternatives; the percentage values must not exceed 100% when added together.

The figures stated are average and apply to room temperature.

Important notice to the holes of the expansion joint flanges:
 bolt circle — with threaded holes from 1/2" to 24"
 other design — upon request

L = Total length
 d₄ = Flaring diameter
 K = Bolt circle
 a₂ = Length with loose flange
 (standard lining)

PTFE-Expansion Joints, 3 Convolutes (Class 300) upon request.

PTFE-expansion joints, 3 Convolutes - New design (Class 150)

Execution:

- choose type of flanges (2 or 3 ears)
- up to diameter nominal DN65: with threaded holes
- up to diameter nominal DN80: with through holes

Lining material:

- PTFE (virgin or conductive)

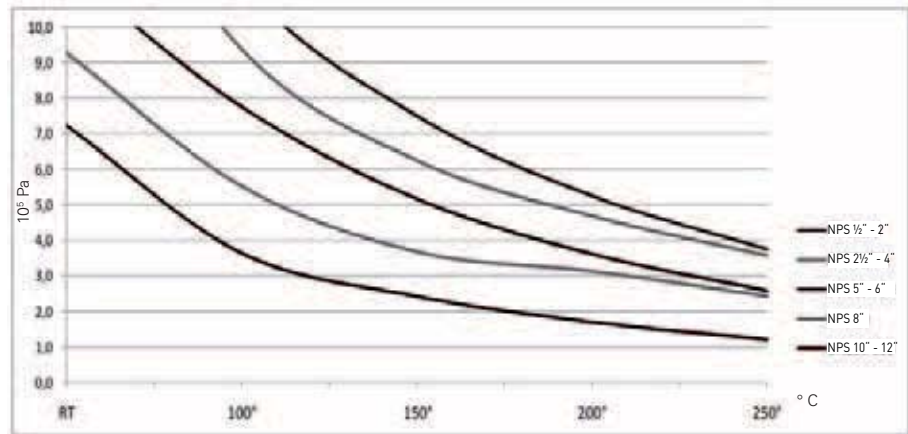
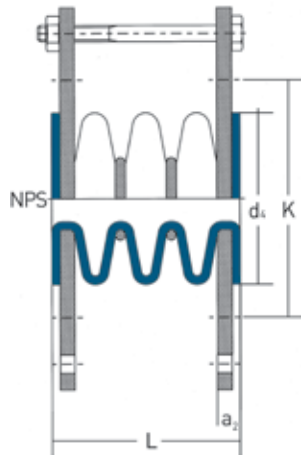
Different lining thicknesses and pressure rates on request.

Flange design:

- loose-loose

Material: carbon steel and stainless steel

Special features: earthing studs, final painting.



NPS	L (mm)	Extension compression ± (mm)	Misa- lignment max. (mm)	Angular deflec- tion max. °	Vacuum resistance at				d ₄ (mm)	K (mm)	a ₂ (mm)	no. of bolts x thread	Weight (ca. kg/ piece)
					10 ⁵ Pa	max. °C	10 ⁵ Pa	max. °C					
1/2"	70	10	6	14	-1,00	200			35,1	60,5	11,00	4 x 1/2" UNC	1,7
3/4"	70	10	6	14	-1,00	200			42,9	69,9	11,00	4 x 1/2" UNC	1,7
1"	70	10	6	14	-1,00	200			50,8	79,2	11,00	4 x 1/2" UNC	1,7
1 1/4"	75	10	6	14	-1,00	200			63,5	88,9	13,00	4 x 1/2" UNC	2,1
1 1/2"	80	15	6	14	-1,00	200			73,2	98,6	13,00	4 x 1/2" UNC	2,6
2"	85	15	9	14	-1,00	200			91,9	120,7	15,00	4 x 5/8" UNC	3,8
2 1/2"	100	20	9	14	-1,00	200			104,6	139,7	15,00	4 x 5/8" UNC	4,6
3"	110	20	13	14	-1,00	200			127,0	152,4	15,50	4 x 19,1 ASA	5,3
4"	110	25	13	14	-1,00	200			157,2	190,5	19,00	8 x 19,1 ASA	7,0
5"	120	25	14	14	-1,00	150			185,7	215,9	19,25	8 x 22,4 ASA	11,4
6"	130	25	14	14	-1,00	150			215,9	241,3	23,00	8 x 22,4 ASA	12,7
8"	140	30	14	14	-1,00	50	-0,80	150	269,7	298,5	25,00	8 x 22,4 ASA	21,0
10"	165	30	14	14	-0,93	45	-0,66	100	323,9	362,0	28,00	12 x 25,4 ASA	27,0
12"	175	30	15	14	-0,85	45	-0,33	100	381,0	431,8	31,00	12 x 25,4 ASA	35,0

L = Total length

d₄ = Flaring diameter

K = Bolt circle

a₂ = Length with loose flange
(standard lining)

PTFE-Expansion Joints, 5 Convolutes (Class 150)

Our expansion joints are highly flexible and provide for the compensation of vibrations and heat-induced expansion in your production line. Expansion joints with 5 convolutes allow the maximum absorption of movement.



PTFE-Expansion Joints, 5 Convolutes (Class 150)

Lining material:

- PTFE (virgin or conductive)

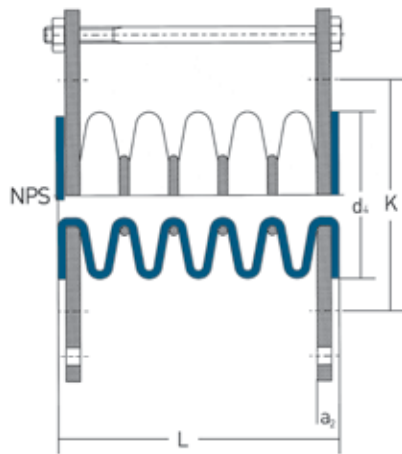
Different lining thicknesses and flange connections upon request.

Flange design:

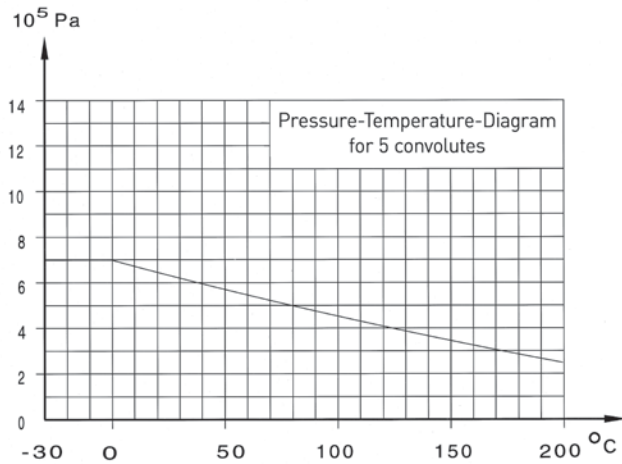
- loose-loose

Material: carbon steel and stainless steel

Special features: earthing studs, final painting.



NPS 1/2" - 20"



NPS	L (mm)	Extension compression ± (mm)	Misalign- ment max. (mm)	Angular deflection max. °	Vacuum resistance at				d ₄ (mm)	K (mm)	a ₂ (mm)	no. of bolts x thread	Weight (ca. kg/ piece)
					10 ⁵ Pa	max. °C	10 ⁵ Pa	max. °C					
1/2"	55	8	5	20	please confer with us				35,1	60,5	11,00	4 x 1/2" UNC	1,6
3/4"	55	8	5	20					42,9	69,9	11,00	4 x 1/2" UNC	1,7
1"	68	8	12	20					50,8	79,2	11,00	4 x 1/2" UNC	1,8
1 1/4"	68	8	12	20					63,5	88,9	13,00	4 x 1/2" UNC	2,2
1 1/2"	80	13	12	20					73,2	98,6	13,00	4 x 1/2" UNC	2,7
2"	88	19	12	20					91,9	120,7	15,00	4 x 5/8" UNC	4,0
2 1/2"	113	25	13	20					104,6	139,7	15,00	4 x 5/8" UNC	4,8
3"	113	25	16	20					127,0	152,4	15,50	4 x 5/8" UNC	5,8
4"	139	25	16	20					157,2	190,5	19,00	8 x 5/8" UNC	7,7
5"	167	32	16	20					185,7	215,9	19,25	8 x 3/4" UNC	12,0
6"	153	32	16	20					215,9	241,3	23,00	8 x 3/4" UNC	13,5
8"	207	32	16	20					269,7	298,5	25,00	8 x 3/4" UNC	22,5
10"	300	32	16	20					323,9	362,0	28,00	12 x 7/8" UNC	28,4
12"	288	35	18	20					381,0	431,8	31,00	12 x 7/8" UNC	37,0
14"	325	35	18	20					412,8	476,3	32,00	12 x 1" UNC	61,0
16"	343	40	25	20					469,9	539,8	34,50	16 x 1" UNC	78,0
18"	470	40	25	20					533,4	577,9	38,50	16 x 1 1/8" UNC	96,0
20"	520	40	25	20					584,2	635,0	40,50	20 x 1 1/8" UNC	117,0

The above shown chart is only valid at neutral length and with limit bolts in place. Above mentioned types of travel (extension compression, misalignment or angular deflection) are alternatives; the percentage values must not exceed 100% when added together.

The figures stated are average and apply to room temperature.

Important notice to the holes of the expansion joint flanges:
bolt circle — with threaded holes from 1/2" to 24"
other design — upon request

PTFE-Expansion Joints, 5 Convolutes (Class 300) upon request.

L = Total length

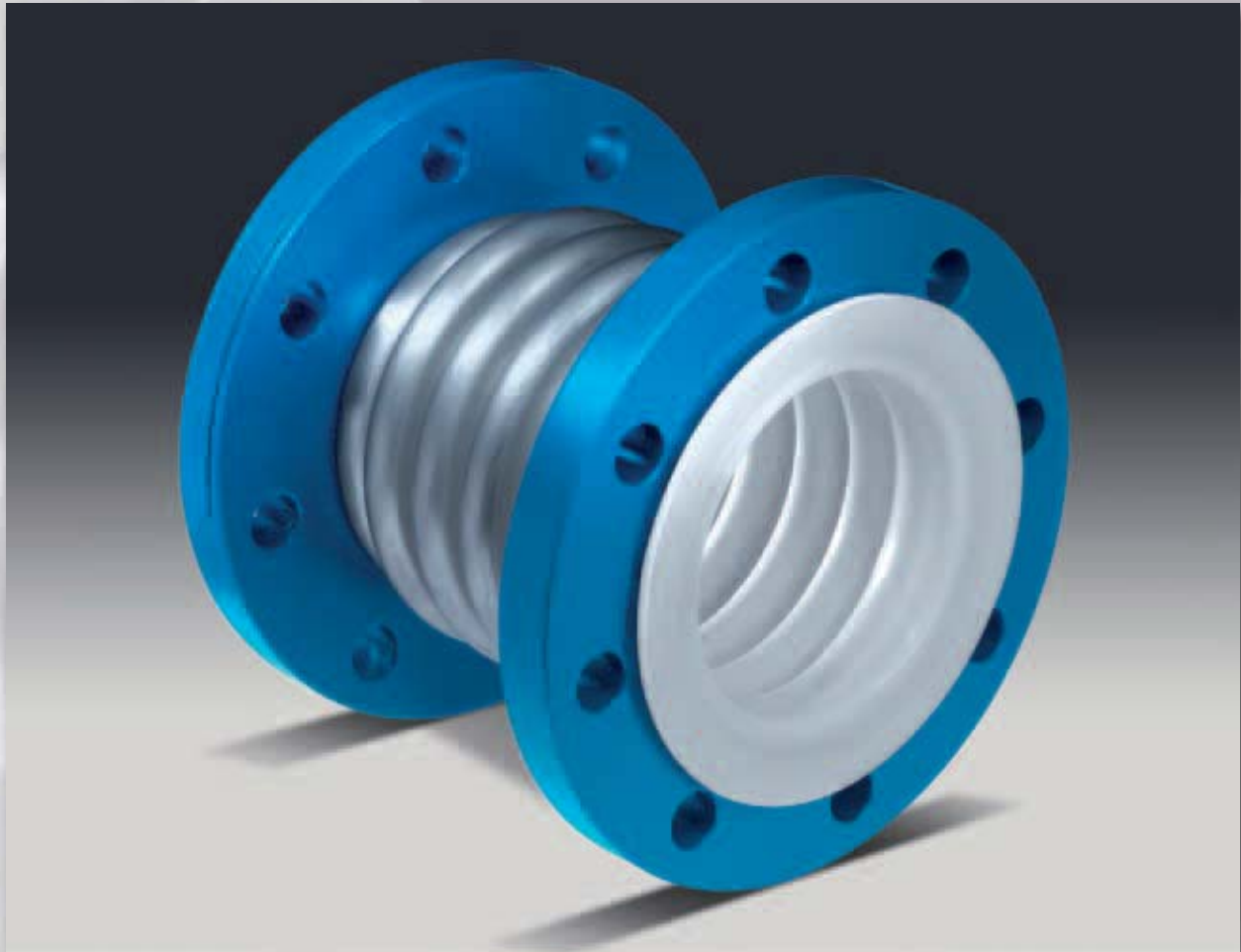
d₄ = Flaring diameter

K = Bolt circle

a₂ = Length with loose flange
(standard lining)

PTFE-lined Stainless Steel Expansion Joint (Class 150)

In case of high pressures and high temperatures, our stainless steel expansion joints are the right choice for your pipes. Stainless steel expansion joints are the most stable expansion joints.



PTFE-lined Stainless Steel Expansion Joint (Class 150)

Lining material:

- PTFE (virgin or conductive)

Different lining thicknesses and flange connections upon request.

Flange design:

- loose-loose

Other pressure rates:

- Class 300

Material of bellow: stainless steel (1.4541)

Material of flanges: stainless steel (1.0038, 1.4541 or 1.4571)

Special features: earthing studs, final painting.



NPS	L (mm)	Extension compression ± (mm)	Spring rate (N/mm)	Vacuum resistance 10 ⁵ Pa at		d _f	Flange design	no. of bolts x thread	Weight (ca. kg/pc.)
				23 °C	160 °C				
1¼"	145	9	260	0,15	0,30	63,5	Form 1	4 x ½" UNC	3,9
1¼"	220	18	130	0,15	0,30	63,5	Form 1	4 x ½" UNC	4,1
1½"	155	11	272	0,15	0,30	73,2	Form 1	4 x ½" UNC	4,5
1½"	240	22	136	0,15	0,30	73,2	Form 1	4 x ½" UNC	4,8
2"	177	13	276	0,15	0,30	91,9	Form 1	4 x ⅝" UNC	5,7
2"	292	27	195	0,15	0,30	91,9	Form 1	4 x ⅝" UNC	6,5
2½"	191	17	234	0,15	0,30	104,6	Form 1	4 x ⅝" UNC	6,9
2½"	287	32	173	0,15	0,30	104,6	Form 1	4 x ⅝" UNC	7,9
3"	185	20	220	0,15	0,30	127,0	Form 1	4 x ⅝" UNC	8,0
3"	275	35	178	0,15	0,30	127,0	Form 1	4 x ⅝" UNC	9,0
4"	178	20	365	0,15	0,30	157,2	Form 1	8 x ⅝" UNC	10,0
4"	266	40	183	0,15	0,30	157,2	Form 1	8 x ⅝" UNC	11,0
5"	221	29	290	0,25	0,40	185,7	Form 1	8 x ¾" UNC	14,0
5"	363	50	290	0,25	0,40	185,7	Form 1	8 x ¾" UNC	17,0
6"	248	30	560	0,25	0,40	215,9	Form 2	8 x ¾" UNC	18,0
6"	388	60	280	0,25	0,40	215,9	Form 2	8 x ¾" UNC	23,0
8"	246	42	412	0,35	0,50	269,7	Form 2	8 x ¾" UNC	25,0
8"	418	78	335	0,35	0,50	269,7	Form 2	8 x ¾" UNC	33,0
10"	243	44	525	0,40	0,60	323,9	Form 2	12 x ⅞" UNC	32,0
10"	392	81	269	0,40	0,60	323,9	Form 2	12 x ⅞" UNC	38,0
12"	287	55	480	0,50	0,75	381,0	Form 2	12 x ⅞" UNC	40,0
12"	429	95	352	0,50	0,75	381,0	Form 2	12 x ⅞" UNC	51,0
14"	289	60	460	0,50	0,75	412,8	Form 1	12 x 1" UNC	56,0
14"	396	92	378	0,50	0,75	412,8	Form 1	12 x 1" UNC	66,0
16"	283	52	713	0,70	0,90	469,9	Form 1	16 x 1" UNC	74,0
16"	421	104	357	0,70	0,90	469,9	Form 1	16 x 1" UNC	85,0
18"	320	70	548	0,70	0,90	533,4	Form 1	16 x 1⅝" UNC	85,0
18"	517	130	430	0,70	0,90	533,4	Form 1	16 x 1⅝" UNC	113,0
20"	303	56	955			584,2	Form 1	20 x 1⅝" UNC	104,0
20"	493	126	425			584,2	Form 1	20 x 1⅝" UNC	129,0
24"	324	70	548				Form 2	20 x 1¼" UNC	126,0
24"	464	126	305				Form 2	20 x 1¼" UNC	144,0

L = Total length

d_f = Flaring diameter

PTFE-Vacuum Expansion Joint (Class 150)

Vacuum expansion joints allow full vacuum, also in case of large nominal widths and high temperatures.



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PTFE-Vacuum Expansion Joint (Class 150)

Lining material:

- PTFE (virgin or conductive)

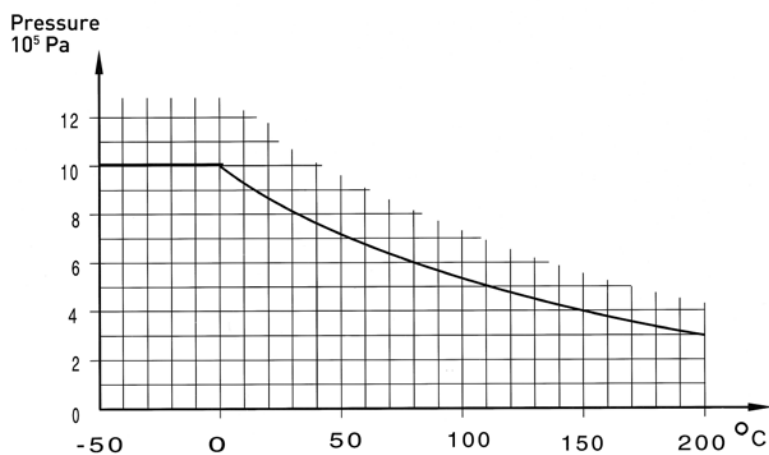
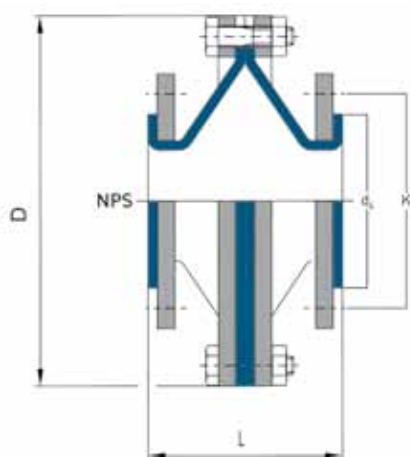
Different lining thicknesses and flange connections upon request.

Flange design:

- loose-loose

Material: carbon steel and stainless steel

Special features: earthing studs, final painting.



NPS	L (mm)	Extension compression ± (mm)	D (mm)	d ₄	K	no. of bolts x thread	Weight (ca. kg/pc.)
4"	95	10	285	157,2	190,5	8 x 5/8" UNC	16,8
6"	100	15	350	215,9	241,3	8 x 3/4" UNC	23,7
8"	105	15	410	269,7	298,5	8 x 3/4" UNC	33,3
10"	110	18	465	323,9	362,0	12 x 7/8" UNC	40,4
12"	115	18	520	381,0	431,8	12 x 7/8" UNC	56,7
14"	120	18	590	412,8	476,3	12 x 1" UNC	76,6
16"	135	20	670	469,9	539,8	16 x 1" UNC	84,1
18"	150	20	695	533,4	577,9	16 x 1 1/8" UNC	106,6
20"	150	20	770	584,2	635,0	20 x 1 1/8" UNC	132,7

L = Total length
D = Outer diameter
d₄ = Flaring diameter
K = Bolt circle