

TYPE APPROVED

Expansion Joints



You can rely on a globally established sector specialist with all of the major national and international product approvals and type approvals for the marine industry.

Our products have proven their worth in the global market for 45 years. In the shipbuilding industry and in its ancillary industries as well as in the case of offshore, steel expansion joints have been granted the standard type approvals and therefore fulfill the regulations of ship classification societies such as the Bureau Veritas, RMRS, ABS.

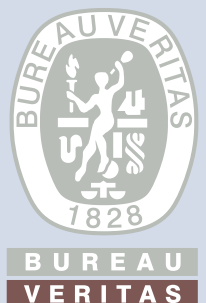
Expansion joints are vital components in most ships, from navy warships, tankers, cruisers, bulk carriers, ferries to luxury yachts.

Applications

- » Expansion joints may be used for the following services on board depending on type:
- » Fresh water, steam and condensate, compressed air, fuel oil and lubricating oil, hydraulic oil, cargo on board oil tanker and chemical tankers, thermal oil, exhaust gas systems (engine, turbine, boiler, heat generator, scrubber)

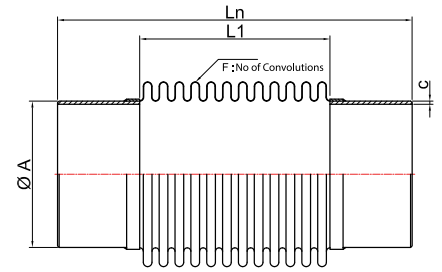
Material Specification

- » Bellows :1.4541 (AISI 321), 1.4401 (AISI 316), 1.4404 (AISI 316L)
- » Welding ends and Flanges: St 37-2, 1.4541 (AISI 321), 1.4401 (AISI 316), 1.4404 (AISI 316L)
- » When other choices of materials are used per manufacturer's recommendations, the Society agreement is to be obtained.



BLNC I

Type Approved Expansion Joints



DESIGN VALUES

Bellows Material	321, 316, 316L
Weld-End Material	Carbon Steel, Stainless Steel
Design Pressure	2,5 barg
Design Temperature	550°C
Design No	PT-001-BAL.0

Expansion joints DN450 through DN1000 have 1mm thick liners

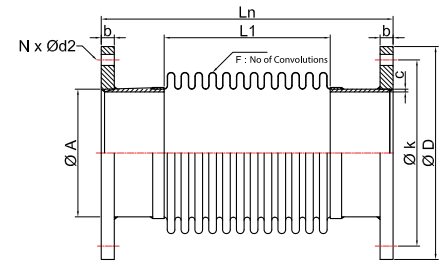


**BUREAU
VERITAS**

Nominal Diameter	Length (Ln) (mm)	Bellows					Pipe		
		Number of Convolutions	Number of Plies	Ply Thickness (mm)	L1 (mm)	ØD (mm)	ØA (mm)	c (mm)	
32	1 1/4"	205	26	1	0,3	105	52	42,4	2,6
40	1 1/2"	205	22	1	0,3	105	60	48,3	2,6
50	2"	245	13	2	0,3	120	78	60,3	2,9
65	2 1/2"	245	13	2	0,3	120	96	76,1	2,9
80	3"	245	13	2	0,3	120	110	88,9	3,2
90	3.5"	245	13	2	0,3	120	122	101,6	3,2
100	4"	245	11	2	0,3	120	140	114,3	3,6
125	5"	245	11	2	0,3	120	166	139,7	3,6
150	6"	245	9	2	0,3	120	200	168,3	4,0
175	7"	245	9	2	0,3	120	226	193,7	4,5
200	8"	245	9	2	0,3	120	251	219,1	4,5
250	10"	245	9	2	0,3	120	305	273	5,0
300	12"	295	9	2	0,3	145	361	323,9	5,6
350	14"	295	9	2	0,3	145	393	355,6	5,6
400	16"	295	9	2	0,3	145	443	406,4	5,6
450	18"	300	8	2	0,4	176	509	457	8,0
500	20"	340	9	2	0,4	216	564	508	8,0
600	24"	340	9	2	0,4	216	669	609	10,0
700	28"	380	6	2	0,4	168	779	711	10,0
800	32"	380	6	2	0,4	180	888	812	10,0
900	36"	380	5	2	0,5	170	998	914	10,0
1000	40"	380	5	2	0,5	190	1108	1016	10,0

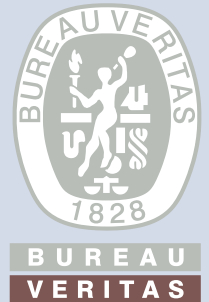
BLNC IF

Type Approved Expansion Joints



DESIGN VALUES

Bellows Material	321, 316, 316L
Flange&Weld-End Material	Carbon Steel, Stainless Steel
Design Pressure	2,5 barg
Design Temperature	550°C
Design No	PT-007-BALF.0

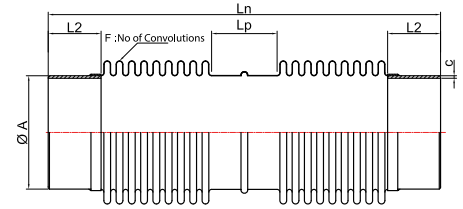


Expansion joints DN450 through DN1000 have 1mm thick liners

Nominal Diameter	Length (Ln) (mm)	Bellows					Pipe			Flange			
		Number of Convolutions	Number of Plies	Ply Thickness (mm)	L1 (mm)	ØD (mm)	ØA (mm)	c (mm)	ØD (mm)	b (mm)	Øk (mm)	N x Ød2	
32	1 1/4"	205	26	1	0,3	105	52	42,4	2,6	140	16	100	4 x 18
40	1 1/2"	205	22	1	0,3	105	60	48,3	2,6	150	16	110	4 x 18
50	2"	245	13	2	0,3	120	78	60,3	2,9	165	16	125	4 x 18
65	2 1/2"	245	13	2	0,3	120	96	76,1	2,9	185	16	145	4 x 18
80	3"	245	13	2	0,3	120	110	88,9	3,2	200	16	160	8 x 18
90	3.5"	245	13	2	0,3	120	122	101,6	3,2	220	16	180	8 x 18
100	4"	245	11	2	0,3	120	140	114,3	3,6	220	16	180	8 x 18
125	5"	245	11	2	0,3	120	166	139,7	3,6	250	16	210	8 x 18
150	6"	245	9	2	0,3	120	200	168,3	4,0	285	16	240	8 x 22
175	7"	245	9	2	0,3	120	226	193,7	4,5	315	16	270	8 x 22
200	8"	245	9	2	0,3	120	251	219,1	4,5	320	16	280	8 x 18
250	10"	245	9	2	0,3	120	305	273	5,0	375	16	335	12 x 18
300	12"	295	9	2	0,3	145	361	323,9	5,6	440	16	395	12 x 22
350	14"	295	9	2	0,3	145	393	355,6	5,6	490	16	445	12 x 22
400	16"	295	9	2	0,3	145	443	406,4	5,6	540	16	495	16 x 22
450	18"	300	8	2	0,4	176	509	457	8,0	595	16	550	16 x 22
500	20"	340	9	2	0,4	216	564	508	8,0	645	16	600	20 x 22
600	24"	340	9	2	0,4	216	669	609	10,0	754	20	700	20 x 22
700	28"	380	6	2	0,4	168	779	711	10,0	856	20	800	24 x 22
800	32"	380	6	2	0,4	180	888	812	10,0	958	20	900	24 x 22
900	36"	380	5	2	0,5	170	998	914	10,0	1060	20	1010	28 x 22
1000	40"	380	5	2	0,5	190	1108	1016	10,0	1162	20	1110	32 x 22

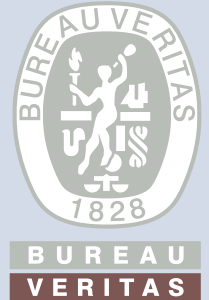
BLNC II

Type Approved Expansion Joints



DESIGN VALUES

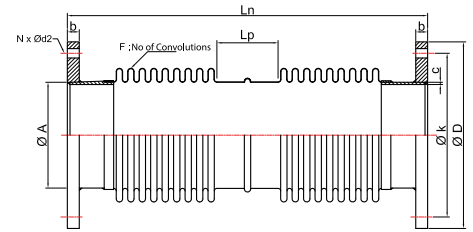
Bellows Material	321, 316, 316L
Weld-End Material	Carbon Steel, Stainless Steel
Design Pressure	2,5 barg
Design Temperature	550°C
Design No	PT-002-BAL2.0



Nominal Diameter		Length (Ln) (mm)	Bellows				Pipe			
			Number of Convolutions	Number of Plies	Ply Thickness (mm)	ØD (mm)	ØA (mm)	c (mm)	L2 (mm)	LP (mm)
40	1 1/2"	375	20 x 2	1	0,3	61	48,3	2,6	40	101
50	2"	375	17 x 2	2	0,3	77	60,3	2,9	40	100
65	2 1/2"	345	11 x 2	2	0,3	95	76,1	3,2	40	111
80	3"	380	13 x 2	2	0,3	111	88,9	3,2	40	115
100	4"	330	9 x 2	2	0,3	140	114,3	3,6	40	113
125	5"	320	9 x 2	2	0,3	168	139,7	3,6	40	100
150	6"	395	10 x 2	2	0,3	200	168,3	4,0	50	107
175	7"	395	10 x 2	2	0,3	228	193,7	4,5	50	107
200	8"	405	8 x 2	2	0,3	255	219,1	4,5	50	116
250	10"	405	7 x 2	2	0,3	315	273	5,0	50	116
300	12"	415	6 x 2	2	0,3	372	323,9	6,0	70	88
350	14"	415	6 x 2	2	0,3	406	355,6	6,0	70	88
400	16"	485	6 x 2	2	0,3	459	406,4	6,0	70	115
450	18"	490	5 x 2	2	0,4	511	457	6,0	70	120
500	20"	460	5 x 2	2	0,4	564	508	6,0	70	115

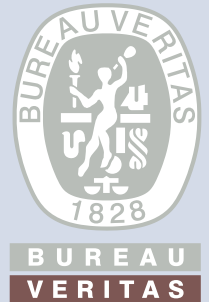
BLNC IIF

Type Approved Expansion Joints



DESIGN VALUES

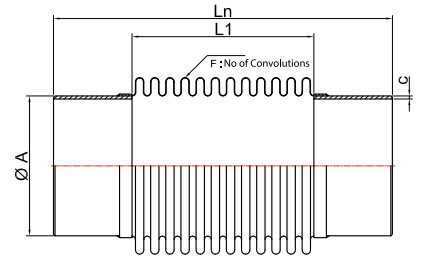
Bellows Material	321, 316, 316L
Flange&Weld-End Material	Carbon Steel, Stainless Steel
Design Pressure	2,5 barg
Design Temperature	550°C
Design No	PT-008-BAL2F.0



Nominal Diameter	Length (Ln) (mm)	Bellows				Pipe				Flange			
		Number of Convolutions	Number of Plies	Ply Thickness (mm)	ØD (mm)	ØA (mm)	c (mm)	Lp (mm)	ØD (mm)	b (mm)	Øk (mm)	N x Ød2	
40	1 1/2"	375	20 x 2	1	0,3	60,5	48,3	2,6	101	150	16	110	4 x 18
50	2"	375	17 x 2	2	0,3	77	60,3	2,9	100	165	16	125	4 x 18
65	2 1/2"	345	11 x 2	2	0,3	95	76,1	3,2	111	185	16	145	4 x 18
80	3"	380	13 x 2	2	0,3	111	88,9	3,2	115	200	16	160	8 x 18
100	4"	330	9 x 2	2	0,3	140	114,3	3,6	113	220	16	180	8 x 18
125	5"	320	9 x 2	2	0,3	168	139,7	3,6	100	250	16	210	8 x 18
150	6"	395	10 x 2	2	0,3	200	168,3	4,0	107	285	16	240	8 x 22
175	7"	395	10 x 2	2	0,3	228	193,7	4,5	107	315	16	270	8 x 22
200	8"	405	8 x 2	2	0,3	255	219,1	4,5	116	320	16	280	8 x 18
250	10"	405	7 x 2	2	0,3	315	273	5,0	116	375	16	335	12 x 18
300	12"	415	6 x 2	2	0,3	372	323,9	6,0	88	440	16	395	12 x 22
350	14"	415	6 x 2	2	0,3	406	355,6	6,0	88	490	16	445	12 x 22
400	16"	485	6 x 2	2	0,3	458,5	406,4	6,0	115	540	16	495	16 x 22
450	18"	490	5 x 2	2	0,4	511	457	6,0	120	595	16	550	16 x 22
500	20"	460	5 x 2	2	0,4	564	508	6,0	115	645	16	600	20 x 22

BLNC III - IIIF

Type Approved Expansion Joints



DESIGN VALUES

Bellows Material	321, 316, 316L
Flange&Weld-End Material	Carbon Steel, Stainless Steel
Design Pressure	2,5 barg
Design Temperature	550°C
Design No	PT-003-BAL3.0 PT-009-BAL3F.0



PT-003-BAL3.0

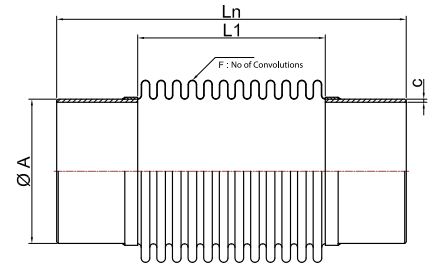
Nominal Diameter		Length (Ln) (mm)	Bellows				Pipe		
			Number of Convolutions	Number of Plies	Ply Thickness (mm)	L1 (mm)	ØD (mm)	ØA (mm)	c (mm)
100	4"	285	15	2	0,3	165	140	114,3	3,6
125	5"	295	15	2	0,3	165	166	139,7	3,6
150	6"	295	13	2	0,3	175	200	168,3	4,0
200	8"	315	13	2	0,3	175	251	219,1	4,5
250	10"	315	13	2	0,3	175	305	273	5,0
300	12"	345	13	2	0,3	210	361	323,9	5,6
350	14"	345	13	2	0,3	210	393	355,6	5,6

PT-009-BAL3F.0

Nominal Diameter		Length (Ln) (mm)	Bellows				Pipe		Flange				
			Number of Convolutions	Number of Plies	Ply Thickness (mm)	L1 (mm)	ØD (mm)	ØA (mm)	c (mm)	ØD (mm)	b (mm)	Øk (mm)	N x Ød2
100	4"	285	15	2	0,3	165	140	114,3	3,6	220	16	180	8 x 18
125	5"	295	15	2	0,3	165	166	139,7	3,6	250	16	210	8 x 18
150	6"	295	13	2	0,3	175	200	168,3	4,0	285	16	240	8 x 22
200	8"	315	13	2	0,3	175	251	219,1	4,5	320	16	280	8 x 18
250	10"	315	13	2	0,3	175	305	273	5,0	375	16	335	12 x 18
300	12"	345	13	2	0,3	210	361	323,9	5,6	440	16	395	12 x 22
350	14"	345	13	2	0,3	210	393	355,6	5,6	490	16	445	12 x 22

BLNC IV - IVF

Type Approved Expansion Joints



DESIGN VALUES

Bellows Material	321, 316, 316L
Flange&Weld-End Material	Carbon Steel, Stainless Steel
Design Pressure	2,5 barg
Design Temperature	550°C
Design No	PT-004-BAL4.0 PT-010-BAL4F.0



PT-004-BAL4.0

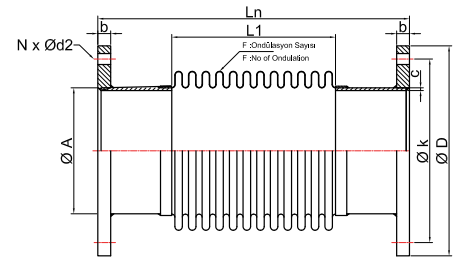
Nominal Diameter		Length (Ln) (mm)	Bellows				Pipe		
			Number of Convolutions	Number of Plies	Ply Thickness (mm)	L1 (mm)	ØD (mm)	ØA (mm)	c (mm)
40	1 1/2"	150	18	1	0,3	90	60	48,3	2,6
50	2"	150	10	2	0,3	90	78	60,3	2,9
65	2 1/2"	150	10	2	0,3	90	96	76,1	2,9
80	3"	150	10	2	0,3	90	110	88,9	3,2
100	4"	150	7	2	0,3	77	140	114,3	3,6
125	5"	150	7	2	0,3	77	166	139,7	3,6
150	6"	150	6	2	0,3	80	200	168,3	4,0
200	8"	150	6	2	0,3	80	251	219,1	4,5
250	10"	150	6	2	0,3	80	305	273	5,0
300	12"	150	5	2	0,3	80	361	323,9	5,6

PT-010-BAL4F.0

Nominal Diameter		Length (Ln) (mm)	Bellows				Pipe			Flange			
			Number of Convolutions	Number of Plies	Ply Thickness (mm)	L1 (mm)	ØD (mm)	ØA (mm)	c (mm)	ØD (mm)	b (mm)	Øk (mm)	N x Ød2
40	1 1/2"	150	18	1	0,3	90	60	48,3	2,6	150	16	100	4 x 18
50	2"	150	10	2	0,3	90	78	60,3	2,9	165	16	125	4 x 18
65	2 1/2"	150	10	2	0,3	90	96	76,1	2,9	185	16	145	4 x 18
80	3"	150	10	2	0,3	90	110	88,9	3,2	200	16	160	8 x 18
100	4"	150	7	2	0,3	77	140	114,3	3,6	220	16	180	8 x 18
125	5"	150	7	2	0,3	77	166	139,7	3,6	250	16	210	8 x 18
150	6"	150	6	2	0,3	80	200	168,3	4,0	285	16	240	8 x 22
200	8"	150	6	2	0,3	80	251	219,1	4,5	320	16	280	8 x 18
250	10"	150	6	2	0,3	80	305	273	5,0	375	16	335	12 x 18
300	12"	150	5	2	0,3	80	361	323,9	5,6	440	16	395	12 x 22

BLNC V

Type Approved Expansion Joints



DESIGN VALUES

Bellows Material	321, 316, 316L
Flange&Weld-End Material	Carbon Steel, Stainless Steel
Design Pressure	2,5 barg
Design Temperature	550°C
Design No	PT-005-BAL5.0

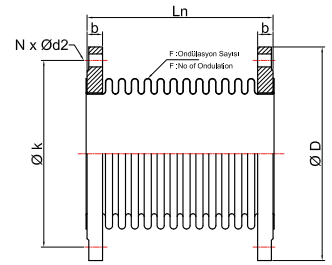


**BUREAU
VERITAS**

Nominal Diameter	Length (Ln) (mm)	Bellows					Pipe			Flange			
		Number of Convolutions	Number of Plies	Ply Thickness (mm)	L1 (mm)	ØD (mm)	ØA (mm)	c (mm)	ØD (mm)	b (mm)	Øk (mm)	N x Ød2	
40	1 1/2"	215	22	1	0,3	105	60	48,3	2,6	150	18	110	4 x 18
50	2"	255	13	2	0,3	120	78	60,3	2,9	165	18	125	4 x 18
65	2 1/2"	255	13	2	0,3	120	96	76,1	2,9	185	18	145	4 x 18
80	3"	255	13	2	0,3	120	110	88,9	3,2	200	20	160	8 x 18
90	3.5"	255	13	2	0,3	120	122	101,6	3,2	220	20	180	8 x 18
100	4"	255	11	2	0,3	120	140	114,3	3,6	220	20	180	8 x 18
125	5"	255	11	2	0,3	120	166	139,7	3,6	250	22	210	8 x 18
150	6"	255	9	2	0,3	120	200	168,3	4,0	285	22	240	8 x 22
175	7"	255	9	2	0,3	120	226	193,7	4,5	315	24	270	8 x 22
200	8"	255	9	2	0,3	120	251	219,1	4,5	340	24	295	8 x 22
250	10"	255	9	2	0,3	120	305	273	5	395	26	350	12 x 22
300	12"	305	9	2	0,3	145	361	323,9	5,6	445	26	400	12 x 22
350	14"	305	9	2	0,3	145	393	355,6	5,6	505	26	460	16 x 22
400	16"	305	9	2	0,3	145	443	406,4	5,6	565	26	515	16 x 26

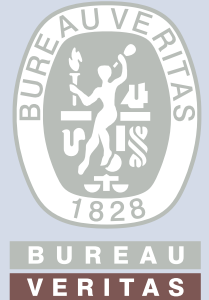
BLNC VI

Type Approved Expansion Joints



DESIGN VALUES

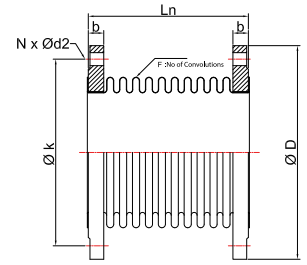
Bellows Material	321, 316, 316L
Flange Material	Carbon Steel, Stainless Steel
Design Pressure	16 barg
Design Temperature	550°C
Design No	PT-006-BAL6.0



Nominal Diameter		Length (Ln) (mm)	Bellows				Flange			
			Number of Convolutions	Number of Plies	Ply Thickness (mm)	ØD (mm)	ØD (mm)	b (mm)	Øk (mm)	ØN x d2
40	1 1/2"	130	20	1	0,3	60,5	150	16	110	4 x 18
50	2"	130	16	2	0,3	77	165	18	125	4 x 18
65	2 1/2"	130	14	2	0,3	95	185	18	145	4 x 18
80	3"	130	13	2	0,3	111	200	20	160	8 x 18
100	4"	130	12	2	0,3	140	220	20	180	8 x 18
125	5"	130	12	2	0,3	168	250	22	210	8 x 18
150	6"	130	12	2	0,4	200	285	22	240	8 x 22
200	8"	130	8	2	0,4	255	340	24	295	12 x 22
250	10"	130	7	2	0,4	315	395	26	355	12 x 26
300	12"	130	6	2	0,4	372	460	28	410	12 x 26

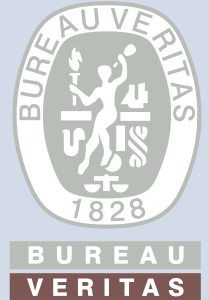
RF 30-60 AXIAL

Type Approved Expansion Joints



DESIGN VALUES

Bellows Material	321, 316, 316L
Flange Material	Carbon Steel, Stainless Steel
Design Pressure	16 barg
Design Temperature	550°C
Connection Type	Rotating Flange
Design No	PT-011-RF30.0 PT-012-RF60.0



DESIGN NO: PT-011-RF30.0

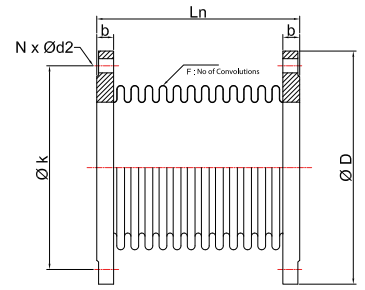
Nominal Diameter		Length (Ln) (mm)	Bellows				Flange			
			Number of Convolutions	Number of Plies	Ply Thickness (mm)	ØD (mm)	ØD (mm)	b (mm)	Øk (mm)	N x Ød2
40	1 1/2"	120	18	1	0,3	60,5	150	16	110	4 x 18
50	2"	120	14	1	0,4	77	165	18	125	4 x 18
65	2 1/2"	120	12	1	0,4	95	185	18	145	4 x 18
80	3"	120	11	1	0,5	111	200	20	160	8 x 18
100	4"	120	10	1	0,5	140	220	20	180	8 x 18
125	5"	125	10	1	0,6	168	250	22	210	8 x 18
150	6"	130	10	1	0,6	200	285	22	240	8 x 22
200	8"	150	8	1	0,8	255	340	24	295	12 x 22
250	10"	165	8	1	0,8	315	405	26	355	12 x 26
300	12"	170	7	1	0,8	372	460	28	410	12 x 26

DESIGN NO: PT-012-RF60.0

Nominal Diameter		Length (Ln) (mm)	Bellows				Flange			
			Number of Convolutions	Number of Plies	Ply Thickness (mm)	ØD (mm)	ØD (mm)	b (mm)	Øk (mm)	N x Ød2
65	2 1/2"	180	20	1	0,4	95	185	18	145	4 x 18
80	3"	180	19	1	0,5	111	200	20	160	8 x 18
100	4"	185	18	1	0,5	140	220	20	180	8 x 18
125	5"	190	18	1	0,6	168	250	22	210	8 x 18
150	6"	200	18	1	0,6	200	285	22	240	8 x 22
200	8"	230	14	1	0,8	255	340	24	295	12 x 22
250	10"	245	14	1	0,8	315	405	26	355	12 x 26
300	12"	250	12	1	0,8	372	460	28	410	12 x 26

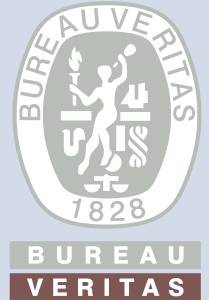
FF 30-60 AXIAL

Type Approved Expansion Joints



DESIGN VALUES

Bellows Material	321, 316, 316L
Flange Material	Carbon Steel, Stainless Steel
Design Pressure	16 barg
Design Temperature	550°C
Connection Type	Fixed Flange
Design No	PT-013-FF30.0 PT-014-FF60.0



DESIGN NO: PT-013-FF30.0

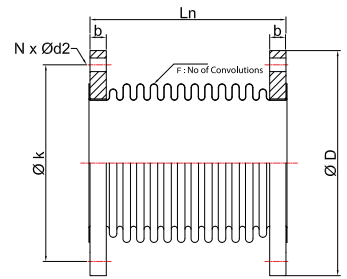
Nominal Diameter		Length (Ln) (mm)	Bellows				Flange			
			Number of Convolutions	Number of Plies	Ply Thickness (mm)	ØD (mm)	ØD (mm)	b (mm)	Øk (mm)	N x Ød2
40	1 1/2"	120	18	1	0,3	60,5	150	16	110	4 x 18
50	2"	120	14	1	0,4	77	165	18	125	4 x 18
65	2 1/2"	120	12	1	0,4	95	185	18	145	4 x 18
80	3"	120	11	1	0,5	111	200	20	160	8 x 18
100	4"	120	10	1	0,5	140	220	20	180	8 x 18
125	5"	125	10	1	0,6	168	250	22	210	8 x 18
150	6"	130	10	1	0,6	200	285	22	240	8 x 22
200	8"	150	8	1	0,8	255	340	24	295	12 x 22
250	10"	165	8	1	0,8	315	405	26	355	12 x 26
300	12"	170	7	1	0,8	372	460	28	410	12 x 26

DESIGN NO: PT-014-FF60.0

Nominal Diameter		Length (Ln) (mm)	Bellows				Flange			
			Number of Convolutions	Number of Plies	Ply Thickness (mm)	ØD (mm)	ØD (mm)	b (mm)	Øk (mm)	N x Ød2
65	2 1/2"	180	20	1	0,4	95	185	18	145	4 x 18
80	3"	180	19	1	0,5	111	200	20	160	8 x 18
100	4"	185	18	1	0,5	140	220	20	180	8 x 18
125	5"	190	18	1	0,6	168	250	22	210	8 x 18
150	6"	200	18	1	0,6	200	285	22	240	8 x 22
200	8"	230	14	1	0,8	255	340	24	295	12 x 22
250	10"	245	14	1	0,8	315	405	26	355	12 x 26
300	12"	250	12	1	0,8	372	460	28	410	12 x 26

BLNC VIII

Type Approved Expansion Joints



DESIGN VALUES

Bellows Material	321, 316, 316L
Weld-End Material	Carbon Steel, Stainless Steel
Design Pressure	2,5 barg
Design Temperature	550°C
Design No	US1BU-03

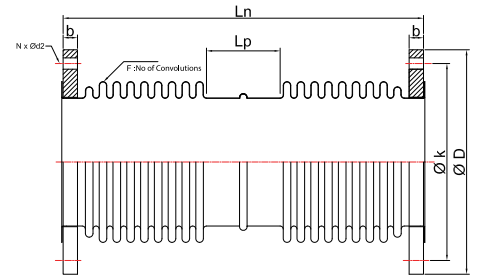


**BUREAU
VERITAS**

Nominal Diameter		Length (Ln) (mm)	Bellows			Flange			
			Number of Convolutions	Number of Plies	Ply Thickness (mm)	ØD (mm)	b (mm)	Øk (mm)	N x Ød2
80	3.5"	180	16	2	0,3	200	20	160	8 x 18
100	4"	150	14	2	0,3	220	20	180	8 x 18
125	5"	185	13	2	0,3	250	22	210	8 x 18
150	6"	200	13	2	0,3	285	22	240	8 x 22
175	7"	205	13	2	0,3	315	22	270	8 x 22
200	8"	185	12	2	0,3	320	16	280	8 x 18
250	10"	185	11	2	0,4	375	16	335	12 x 18
300	12"	180	9	2	0,4	440	16	395	12 x 22
350	14"	180	9	2	0,4	490	16	445	12 x 22
400	16"	220	11	2	0,4	540	16	495	16 x 22
450	18"	180	8	2	0,4	595	16	550	16 x 22
500	20"	230	9	2	0,4	645	16	600	20 x 22
550	22"	240	9	2	0,4	703	20	650	20 x 22
600	24"	230	8	2	0,4	754	20	700	20 x 22
700	28"	230	7	2	0,4	856	20	800	24 x 22
800	32"	230	7	2	0,5	958	20	900	24 x 22
900	36"	230	6	2	0,5	1060	20	1010	28 x 22
1000	40"	230	5	2	0,5	1162	20	1110	32 x 22
1100	44"	230	5	2	0,6	1266	20	1210	32 x 22
1200	48"	230	5	2	0,6	1366	20	1310	36 x 22

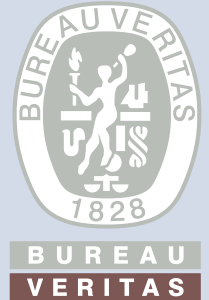
BLNC IX

Type Approved Expansion Joints



DESIGN VALUES

Bellows Material	321, 316, 316L
Weld-End Material	Carbon Steel, Stainless Steel
Design Pressure	2,5 barg
Design Temperature	550°C
Design No	US3BU-03



			Bellows				Flange			
Nominal Diameter		Length (Ln) (mm)	Lp (mm)	Number of Convolutions	Number of Plies	Ply Thickness (mm)	ØD (mm)	b (mm)	Øk (mm)	N x Ød2
80	3.5"	340	115	2 x 11	2	0,3	200	20	160	8 x 18
100	4"	290	115	2 x 7	2	0,3	220	20	180	8 x 18
125	5"	285	105	2 x 8	2	0,3	250	22	210	8 x 18
150	6"	340	105	2 x 8	2	0,3	285	22	240	8 x 22
175	7"	345	120	2 x 7	2	0,3	315	22	270	8 x 22
200	8"	335	120	2 x 7	2	0,4	320	16	280	8 x 18
250	10"	335	115	2 x 7	2	0,4	375	16	335	12 x 18
300	12"	310	85	2 x 6	2	0,4	440	16	395	12 x 22
350	14"	310	85	2 x 6	2	0,4	490	16	445	12 x 22
400	16"	375	110	2 x 7	2	0,5	540	16	495	16 x 22
450	18"	380	120	2 x 6	2	0,5	595	16	550	16 x 22
500	20"	350	120	2 x 5	2	0,5	645	16	600	20 x 22
550	22"	360	110	2 x 5	2	0,5	703	20	650	20 x 22
600	24"	440	135	2 x 6	2	0,5	754	20	700	20 x 22
700	28"	465	165	2 x 5	2	0,5	856	20	800	24 x 22
800	32"	465	165	2 x 5	2	0,5	958	20	900	24 x 22
900	36"	465	170	2 x 4	2	0,5	1060	20	1010	28 x 22
1000	40"	465	175	2 x 3	2	0,5	1162	20	1110	32 x 22
1100	44"	465	175	2 x 3	2	0,6	1266	20	1210	32 x 22
1200	48"	465	175	2 x 3	2	0,6	1366	20	1310	36 x 22

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