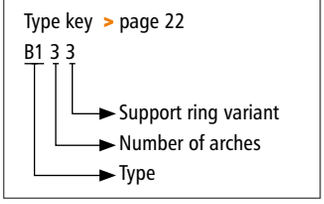
B130 B140 B150

⌀ 50 - 5,000 mm
⍁ 6,000 x 3,000 mm

- **Type B130 B140 B150**
  without vacuum rings
- **Type B131 B141 B151**
  with internal vacuum rings
- **Type B132 B142 B152**
  with embedded vacuum rings
- **Type B133 B143 B153**
  without vacuum rings,
  with external support rings
- **Type B134 B144 B154**
  with internal vacuum rings,
  with external support rings
- **Type B135 B145 B155**
  with embedded vacuum rings,
  with external support rings

Type key > page 22



Universal expansion joint with three or more arches

Design: Streamlined, triple or multiple wide arch slip-on sleeve type rubber bellows, designed to compensate all directional movements, 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 fixing clamps. Optional with vacuum rings and/or external support rings. In compliance with PED 2014/68/EU, FSA Technical Handbook and ASTM F1123 - 87. Available in split-wrap or custom offset arrangements.

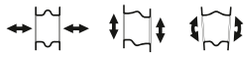
Diameters: ⌀ 50 to 5,000 mm, custom diameters possible

Length: = Installation gap + 2 x fixing width
Installation gaps L_0 = 600 mm with 3 arches, type B130
Installation gaps L_0 = 800 mm with 4 arches, type B140
Installation gaps L_0 = 1,000 mm with 5 arches, type B150
(> page 191–193)
Custom length on request

Fixing width: At least 40 mm
Depends on pressure, diameter and clamp type

Pressure: Up to 6 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 axial, lateral and angular movements
For axial extension or vacuum, the expansion joint can slip of the pipeline (groove as needed at the pipeline end)

 (> page 191–193)

Application:
Power plants, plant construction, food processing, wastewater treatment plants, industrial facilities, e. g. to disconnect pipelines, on oscillating conveyor systems, on sieving machines

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

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

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 191–193)

Clamps

Design: Depending on pressure and the diameter, endless clamp belt, screw thread belt, small clamps or hinge bolt clamps. At higher pressures, 2 parallel clamps per side

Width:

Endless clamp belt:	¾“
Screw thread belt:	½“
Small clamp:	depending on Ø: 9–12 mm
Hinge bolt clamp:	depending on Ø: 18–30 mm

Materials:

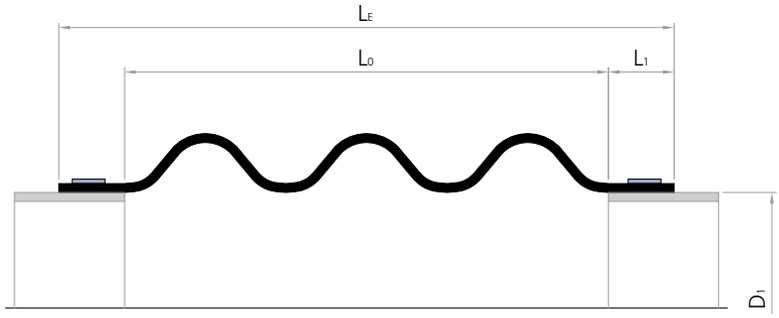
Endless clamp belt with screw lugs (tongs):	1.7300
Screw thread belt with threaded screw lugs:	1.4310
Small clamp, belt and housing:	1.4016 (Screw steel galvanised)
Hinge bolt clamp, belt and housing:	1.4016 (Screw steel galvanised)

Support rings

TYPE	Support rings	Vacuum ring	Support ring	Pressure	Movement
B130 B140 B150		None	None	Low pressure, vacuum stability on request	> page 191
B131 B141 B151		Medium contact, inside the arch	None	Low pressure, for vacuum up to 0.05 bar absolute	> page 192
B132 B142 B152		No medium contact, embedded in the arches	None	Low pressure, for vacuum up to 0.05 bar absolute	> page 193
B133 B143 B153		None	External between the arches	Depending on the diameter up to 6 bar, slight vacuum	> page 191
B134 B144 B154		Medium contact, inside the arch	External between the arches	Depending on the diameter up to 6 bar, for vacuum up to 0.05 bar absolute	> page 192
B135 B145 B155		No medium contact, embedded in the arches	External between the arches	Depending on the diameter up to 6 bar, for vacuum up to 0.05 bar absolute	> page 193

Materials		
Stainless steel	Carbon steel, rubberised	Carbon steel, embedded

Cross section B130



B130 B140 B150

> without vacuum rings

B133 B143 B153

> without vacuum rings, with external support rings

Installation gap

	L_0 = 600 mm – B130 B133					L_0 = 800 mm – B140 B143					L_0 = 1000 mm – B150 B153				
	Movement				A	Movement				A	Movement				A
∅															
mm	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²
50	159	92	126	74.8	233	212	123	168	78.5	233	265	154	210	80.8	233
65	159	92	123	70.5	278	212	123	164	75.2	278	265	154	205	78.1	278
80	159	92	121	66.5	317	212	123	161	72.0	317	265	154	201	75.4	317
100	159	92	118	61.5	402	212	123	158	67.9	402	265	154	197	72.0	402
125	159	92	116	55.8	498	212	123	154	63.1	498	265	154	193	67.9	498
150	159	92	114	50.8	617	212	123	152	58.6	617	265	154	190	64.0	617
175	159	92	112	46.4	734	212	123	150	54.6	734	265	154	187	60.4	734
200	159	92	111	42.6	861	212	123	148	50.9	861	265	154	185	57.0	861
250	159	92	109	36.4	1,164	212	123	145	44.5	1,164	265	154	181	50.9	1,164
300	159	92	107	31.5	1,492	212	123	143	39.4	1,492	265	154	178	45.8	1,492
350	159	92	105	27.7	1,717	212	123	141	35.1	1,717	265	154	176	41.3	1,717
400	159	92	104	24.7	2,111	212	123	139	31.6	2,111	265	154	174	37.6	2,111
450	159	92	103	22.2	2,545	212	123	137	28.7	2,545	265	154	172	34.4	2,545
500	159	92	102	20.2	3,019	212	123	136	26.2	3,019	265	154	170	31.6	3,019
550	159	92	101	18.5	3,534	212	123	135	24.1	3,534	265	154	169	29.2	3,534
600	159	92	100	17.0	4,090	212	123	134	22.3	4,090	265	154	167	27.2	4,090
650	159	92	100	15.8	4,686	212	123	133	20.7	4,686	265	154	166	25.4	4,686
700	159	92	99	14.7	5,322	212	123	132	19.4	5,322	265	154	165	23.7	5,322
750	159	92	98	13.8	5,999	212	123	131	18.2	5,999	265	154	164	22.3	5,999
800	159	92	98	13.0	6,717	212	123	130	17.1	6,717	265	154	163	21.1	6,717
850	159	92	97	12.2	7,475	212	123	130	16.1	7,475	265	154	162	19.9	7,475
900	159	92	97	11.6	8,274	212	123	129	15.3	8,274	265	154	161	18.9	8,274
1000	159	92	96	10.4	9,993	212	123	128	13.8	9,993	265	154	160	17.1	9,993
1100	159	92	95	9.5	11,652	212	123	127	12.6	11,652	265	154	158	15.6	11,652
1200	159	92	94	8.7	13,623	212	123	126	11.6	13,623	265	154	157	14.4	13,623
1300	159	92	94	8.1	15,770	212	123	125	10.7	15,770	265	154	156	13.3	15,770
1400	159	92	93	7.5	18,074	212	123	124	10.0	18,074	265	154	155	12.4	18,074
1500	159	92	92	7.0	20,536	212	123	123	9.3	20,536	265	154	154	11.6	20,536

Recommended sizes
Further possible sizes

Reduction of movement for expansion joints with PTFE lining:
axial compression: -33 %; axial extension: -66 %; lateral displacement: -50 %; angular movement: -66 %.
In the event of axial extension and simultaneous lateral displacement the above movements are reduced (> page 29).
Angular movement only possible with guided external support ring.
Larger movements on request.

Customised products available

Multi-arch clamped rubber sleeve,
external support rings with lugs for guidance

B131 B141 B151

> with internal vacuum rings

B134 B144 B154

> with internal vacuum rings, with external support rings

Installation gap

	L_0 = 600 mm – B131 B134					L_0 = 800 mm – B141 B144					L_0 = 1000 mm – B151 B154				
	Movement				A	Movement				A	Movement				A
∅ mm	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²
50	159	30	126	74.8	233	212	41	168	78.5	233	265	51	210	80.8	233
65	159	30	123	70.5	278	212	41	164	75.2	278	265	51	205	78.1	278
80	159	30	121	66.5	317	212	41	161	72.0	317	265	51	201	75.4	317
100	159	30	118	61.5	402	212	41	158	67.9	402	265	51	197	72.0	402
125	159	30	116	55.8	498	212	41	154	63.1	498	265	51	193	67.9	498
150	159	30	114	50.8	617	212	41	152	58.6	617	265	51	190	64.0	617
175	159	30	112	46.4	734	212	41	150	54.6	734	265	51	187	60.4	734
200	159	30	111	42.6	861	212	41	148	50.9	861	265	51	185	57.0	861
250	159	30	109	36.4	1,164	212	41	145	44.5	1,164	265	51	181	50.9	1,164
300	159	30	107	31.5	1,492	212	41	143	39.4	1,492	265	51	178	45.8	1,492
350	159	30	105	27.7	1,717	212	41	141	35.1	1,717	265	51	176	41.3	1,717
400	159	30	104	24.7	2,111	212	41	139	31.6	2,111	265	51	174	37.6	2,111
450	159	30	103	22.2	2,545	212	41	137	28.7	2,545	265	51	172	34.4	2,545
500	159	30	102	20.2	3,019	212	41	136	26.2	3,019	265	51	170	31.6	3,019
550	159	30	101	18.5	3,534	212	41	135	24.1	3,534	265	51	169	29.2	3,534
600	159	30	100	17.0	4,090	212	41	134	22.3	4,090	265	51	167	27.2	4,090
650	159	30	100	15.8	4,686	212	41	133	20.7	4,686	265	51	166	25.4	4,686
700	159	30	99	14.7	5,322	212	41	132	19.4	5,322	265	51	165	23.7	5,322
750	159	30	98	13.8	5,999	212	41	131	18.2	5,999	265	51	164	22.3	5,999
800	159	30	98	13.0	6,717	212	41	130	17.1	6,717	265	51	163	21.1	6,717
850	159	30	97	12.2	7,475	212	41	130	16.1	7,475	265	51	162	19.9	7,475
900	159	30	97	11.6	8,274	212	41	129	15.3	8,274	265	51	161	18.9	8,274
1000	159	30	96	10.4	9,993	212	41	128	13.8	9,993	265	51	160	17.1	9,993
1100	159	30	95	9.5	11,652	212	41	127	12.6	11,652	265	51	158	15.6	11,652
1200	159	30	94	8.7	13,623	212	41	126	11.6	13,623	265	51	157	14.4	13,623
1300	159	30	94	8.1	15,770	212	41	125	10.7	15,770	265	51	156	13.3	15,770
1400	159	30	93	7.5	18,074	212	41	124	10.0	18,074	265	51	155	12.4	18,074
1500	159	30	92	7.0	20,536	212	41	123	9.3	20,536	265	51	154	11.6	20,536

Recommended sizes
Further possible sizes

Reduction of movement for expansion joints with PTFE lining:
axial compression: -33 %; axial extension: -0 %; lateral displacement: -50 %; angular movement: -0 %.
In the event of axial extension and simultaneous lateral displacement the above movements are reduced (> page 29).
Angular movement only possible with guided external support ring.
Larger movements on request.

Customised products available

Sleeve type rubber bellow with built in off-set

B132 B142 B152

> with embedded vacuum rings

B135 B145 B155

> with embedded vacuum rings, with external support rings

Installation gap

	L_0 = 600 mm – B132 B135					L_0 = 800 mm – B142 B145					L_0 = 1000 mm – B152 B155				
	Movement				A	Movement				A	Movement				A
∅ mm	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²	mm	mm	±mm	±°	cm²
50	105	28	123	73.8	207	140	38	164	77.7	207	175	47	204	80.1	207
65	105	28	120	69.3	249	140	38	160	74.2	249	175	47	200	77.2	249
80	105	28	118	65.1	286	140	38	157	70.8	286	175	47	196	74.4	286
100	105	28	115	59.8	367	140	38	154	66.5	367	175	47	192	70.7	367
125	105	28	113	54.0	459	140	38	150	61.5	459	175	47	188	66.4	459
150	105	28	111	48.9	574	140	38	148	56.9	574	175	47	185	62.3	574
175	105	28	109	44.5	687	140	38	146	52.7	687	175	47	182	58.5	687
200	105	28	108	40.7	810	140	38	144	49.0	810	175	47	180	55.0	810
250	105	28	106	34.5	1,104	140	38	141	42.6	1,104	175	47	177	48.8	1,104
300	105	28	104	29.8	1,425	140	38	139	37.5	1,425	175	47	174	43.6	1,425
350	105	28	103	26.2	1,645	140	38	137	33.3	1,645	175	47	171	39.3	1,645
400	105	28	102	23.3	2,030	140	38	135	29.9	2,030	175	47	169	35.6	2,030
450	105	28	100	20.9	2,456	140	38	134	27.1	2,456	175	47	167	32.4	2,456
500	105	28	99	19.0	2,922	140	38	133	24.7	2,922	175	47	166	29.8	2,922
550	105	28	99	17.4	3,429	140	38	132	22.7	3,429	175	47	164	27.5	3,429
600	105	28	98	16.0	3,977	140	38	130	21.0	3,977	175	47	163	25.5	3,977
650	105	28	97	14.8	4,565	140	38	130	19.5	4,565	175	47	162	23.7	4,565
700	105	28	96	13.8	5,194	140	38	129	18.2	5,194	175	47	161	22.2	5,194
750	105	28	96	12.9	5,863	140	38	128	17.0	5,863	175	47	160	20.9	5,863
800	105	28	95	12.1	6,573	140	38	127	16.0	6,573	175	47	159	19.7	6,573
850	105	28	95	11.4	7,323	140	38	126	15.1	7,323	175	47	158	18.6	7,323
900	105	28	94	10.8	8,114	140	38	126	14.3	8,114	175	47	157	17.6	8,114
1000	105	28	93	9.8	9,817	140	38	125	13.0	9,817	175	47	156	16.0	9,817
1100	105	28	93	8.9	11,461	140	38	123	11.8	11,461	175	47	154	14.6	11,461
1200	105	28	92	8.2	13,417	140	38	123	10.9	13,417	175	47	153	13.4	13,417
1300	105	28	91	7.5	15,548	140	38	122	10.0	15,548	175	47	152	12.4	15,548
1400	105	28	91	7.0	17,837	140	38	121	9.3	17,837	175	47	151	11.5	17,837
1500	105	28	90	6.5	20,283	140	38	120	8.7	20,283	175	47	150	10.8	20,283

Recommended sizes
Further possible sizes

Reduction of movement for expansion joints with PTFE lining:
axial compression: -0 %; axial extension: -0 %; lateral displacement: -0 %; angular movement: -0 %.
In the event of axial extension and simultaneous lateral displacement the above movements are reduced (> page 29).
Angular movement only possible with guided external support ring.
Larger movements on request.

Customised products available