

RUBBER EXPANSION JOINT TYPE C-2

HIGHLY FLEXIBLE TWIN-CONVOLUTED

UNIVERSAL EXPANSION JOINT

DN 300 – DN 3600



STRUCTURE TYPE C-2 / RUBBER BELLOWS PN 4, 10

- Universal expansion joint consisting of a rubber bellows and press-on retaining flanges
- Outer stabilizing ring between the convolutions
- Available in special lengths
- Twin-convoluted very elastic robust bellows in various rubber grades
- Synthetic fibre reinforcement
- Full-faced self-sealing rubber flanges with drilling for through bolts
- Electrical impedance 10^3 to 10^6 Ohm (DIN IEC 93, VDE 0303-30)

Rubber grade*	EPDM	NBR	CIIR
Colour code	orange	red	white
Possible uses	Cooling, sea, brackish water, acids, lyes	hydrocarbon containing liquids	Drinking water

*Check or inquire about the resistance of the rubber grade to temperature and medium.

Technical design		
DN	DN 300 – 2000	DN 300 – 2000
Pressure rate	PN 4	PN 10
Max. perm. operating pressure	4 bar*	10 bar*
Max. perm. temperature	+100 °C	+100 °C
Bursting pressure	≥ 12 bar	≥ 30 bar
Vacuum operation	Vacuum supporting rings on request (only for horizontal installation)	

Max. operating pressure to be set 30 % lower for shock loads.

*Please consider a decrease of pressure due to temperature (see technical annex).

FLANGES / VERSIONS

- Press-on retaining flanges with stabilizing collar
- Flange drilling for through bolts

	Standard	Others
Dimensions	EN 1092	ANSI, BS etc. Connection dimensions see technical annex page 213 – 215
Materials	1.0038 (S235JR)	1.0577 (S355J2), 1.4541, 1.4571 etc.
Corrosion protection	hot-dip galvanized	special varnish and coating, electrogalvanized, etc.

NOTE

For vertical installation please consult us for technical advice.

Please comply with the general technical instructions regarding reaction force, moving force, fixed point load, installation instructions etc.

Subject to technical alterations and deviations resulting from the manufacturing process.

APPLICATIONS

- for compensating large axial, lateral and angular movement
- for reducing thermal and mechanical tension in pipes and their system components, e.g.
 - pumps
 - fittings
 - condensers
- for compensating simultaneous movement in cooling water pipes
- to compensate for installation inaccuracies
- to compensate for ground and foundation settlement
- power station technology
- process plant engineering

CERTIFICATES

- CE (PED 2014/68/EU)
- Drinking water
- TÜV Süd (KTA)

ACCESSORIES

- Vacuum supporting ring
- Internal guide sleeve
- Protective tube

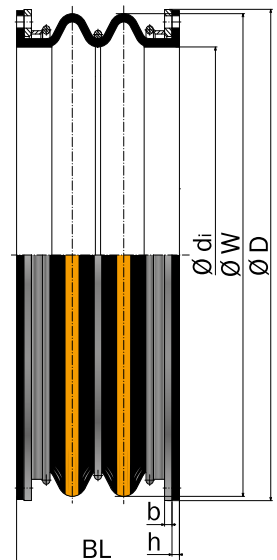
DIMENSIONS STANDARD PROGRAM

DN	Pressure rate bar	Bellows		Steel flange			w/o vacuum supporting ring			with vacuum supporting ring		
		Ø d _i Bellows inner Ø tolerance ±1% mm	h Rubber flange thickness mm	Ø D Flange outer Ø PN 6 (EN 1092) mm	Ø D Flange outer Ø PN 10 (EN 1092) mm	b Flange thick- ness mm	BL mm	Ø W Convolution Ø unpressurized mm	Weight approx. kg	BL mm	Ø W Convolution Ø unpressurized mm	Weight approx. kg
300	4/10	300	15	440	445	20	400	413	35	400	413	40
350	4/10	350	15	490	505	20	400	463	45	400	463	50
400	4/10	400	15	540	565	20	400	513	55	400	513	60
450	4/10	450	15	595	615	20	400	563	60	400	563	65
500	4/10	500	15	645	670	20	400	613	65	400	613	70
600	4/10	600	15	755	780	20	400	713	80	400	713	85
700	4/10	700	15	860	895	20	400	813	100	400	813	105
750	4/10	750	15	925	965	20	400	863	115	400	863	120
800	4/10	800	20	975	1015	20	400	923	130	400	923	135
900	4/10	900	20	1075	1115	20	400	1023	150	400	1023	155
1000	4/10	1000	20	1175	1230	20	400	1123	170	400	1123	175
1100	4/10	1100	20	1290	1345	20	525	1268	220	550	1310	280
1200	4/10	1200	20	1405	1455	20	525	1368	240	550	1410	310
1300	4/10	1300	20	1520	1565	20	525	1468	280	550	1510	350
1400	4/10	1400	20	1630	1675	20	525	1568	320	550	1610	400
1500	4/10	1500	20	1730	1795	20	525	1668	360	550	1710	450
1600	4/10	1600	20	1830	1915	20	525	1768	400	550	1810	490
1700	4/10	1700	20	1940	2015	20	525	1868	415	550	1910	520
1800	4/10	1800	20	2045	2115	20	525	1968	430	550	2010	540
2000	4/10	2000	20	2265	2325	20	525	2168	460	550	2210	620
2100		2100	20	2375	2440	20	525	2268		550	2310	
2200		2200	25	2475	2550	20	525	2378		550	2420	
2300		2300	25	2590	2650	20	525	2478		550	2520	
2400		2400	25	2685	2760	20	525	2578		550	2620	
2500		2500	25	2795	2860	20	525	2678		550	2720	
2600		2600	25	2905	2960	20	525	2778		550	2820	
2800		2800	25	3115	3180	20	525	2978		550	3020	
3000		3000	25	3315	3405	20	525	3178		550	3220	
3200		3200	25	3525	-	20	525	3378		550	3420	
3400		3400	25	3735	-	20	525	3578		550	3620	
3600		3600	25	3975	-	20	525	3778		550	3820	

Other lengths (BL) and pressure rates on request. Please contact us for further flange dimensions.

MOVEMENT COMPENSATION

DN	w/o vacuum supporting ring					with vacuum supporting ring				
	Δ ax Axial movement		Δ lat Lateral movement	Δ ang Angular movement	A* Effective bellows cross sectional area	Δ ax Axial movement		Δ lat Lateral movement	Δ ang Angular movement	A* Effective bellows cross sectional area
	Compression -mm	Elongation +mm	±mm	±° degrees	cm ²	Compression -mm	Elongation +mm	±mm	±° degrees	cm ²
300	80	60	50	21.8	1020	80	60	50	10.0	1020
350	80	60	50	18.9	1300	80	60	50	9.0	1300
400	80	60	50	16.7	1620	80	60	50	8.0	1620
450	80	60	50	15.0	1970	80	60	50	7.0	1970
500	80	60	50	13.5	2360	80	60	50	6.0	2360
600	80	60	50	11.3	3240	80	60	50	5.5	3240
700	80	60	50	9.8	4250	80	60	50	5.0	4250
750	80	60	50	9.1	4820	80	60	50	4.5	4820
800	80	60	50	8.6	5410	80	60	50	4.0	5410
900	80	60	50	7.6	6700	80	60	50	3.5	6700
1000	80	60	50	6.9	8140	80	60	50	3.5	8140
1100	80	60	50	6.5	10500	80	60	50	7.3	11200
1200	80	60	50	5.9	12300	80	60	50	6.7	13000
1300	80	60	50	5.5	14200	80	60	50	6.2	15000
1400	80	60	50	5.1	16300	80	60	50	5.7	17100
1500	80	60	50	4.9	18500	80	60	50	5.4	19300
1600	80	60	50	4.5	20800	80	60	50	5.0	21700
1700	80	60	50	4.1	23300	80	60	50	4.7	24300
1800	80	60	50	3.9	25900	80	60	50	4.5	26900
2000	80	60	50	3.7	31500	80	60	50	4.0	32700
2100	80	60	50	3.3	34500	80	60	50	3.8	35800
2200	80	60	50	3.2	37700	80	60	50	3.7	39000
2300	80	60	50	3.1	41000	80	60	50	3.5	42300
2400	80	60	50	3.0	44500	80	60	50	3.4	45800
2500	80	60	50	2.9	48000	80	60	50	3.2	49500
2600	80	60	50	2.7	51800	80	60	50	3.1	53300
2800	80	60	50	2.5	59600	80	60	50	2.9	61200
3000	80	60	50	2.4	68000	80	60	50	2.7	69700
3200	80	60	50	2.3	77000	80	60	50	2.5	78800
3400	80	60	50	2.2	86500	80	60	50	2.4	88500
3600	80	60	50	2.1	96600	80	60	50	2.3	98600



Type C-2

Highly flexible universal expansion joint without restraint

Please inquire for simultaneous (different) movement.

*Effective bellows cross sectional area is a theoretical value.