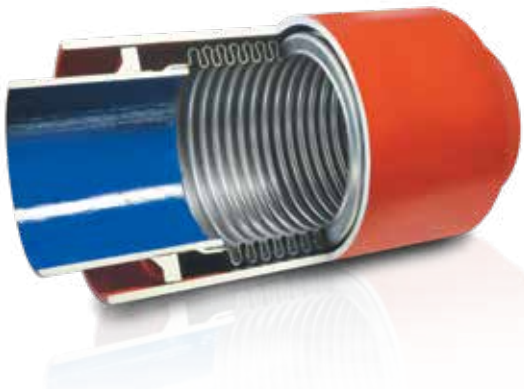
DISTRICT HEATING EXPANSION JOINTS

District Heating Expansion Joints



Cona's highly flexible metal bellowed expansion joints are designed to absorb large axial movements specially for installation in district heating pipe systems.

Movement Absorption

The highly flexible bellow of the compensator ensures absorption of large axial movements. The cover, guides and rings of the compensator contribute high stability. The cover likewise absorbs eventual misalignments in the pipeline, which can occur if the pipeline hangs a bit in the compensator.

Advantages of District Heating Expansion Joints

- Bellows design according to EJMA coding system.
- Construction according to EN14917 standard.
- Absorption of large axial movements
- Protection against mechanical damage through completely closed external pipes
- Easy installation and insulation
- Protection against

DESIGN (EN 14917&EJMA)

Bellow Material	Stainless Steel AISI 321 (Opt.304,316L,316TI,309)
Connection Types	Fixed and Floating Flanged, Welded Ended & Grooved
Flange Material	PN 16, St.37.2 as standard, the material can be customised on request
Inner Sleeve	Available in stainless steel AISI 321 (Opt. 304,316L,316TI,309) on request
Accessories	Inner sleeve, cover, counter flange, gaskets, insulation etc. are available on request.
Certificates	Material certificate 3.1 according to EN 10204 and /or ASME PED 2014/68/EU Cat.III Mod.H

Operation Conditions

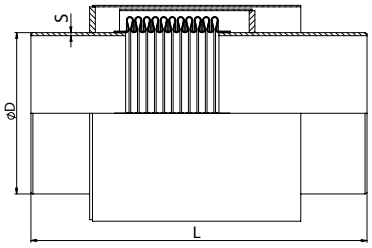
Operating Temperature	-10°C/+550°C
Operating Pressure	Standard pressure rating is PN16 Can be produced with different pressure rates PN 2,5-64 PN corresponds to the allowable operating pressure at room temperature

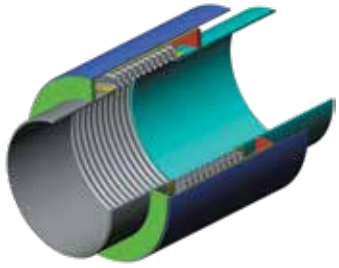
Important

Standard models are produced as un-restrained, fixed points should be created as to withstand springing force as well as pressure thrust caused by the system pressure. For detailed information, get in contact with Cona's expert sales team. We strongly advise against the use of expansion joints and bellows for misalignment. Torsion on bellow parts are not desirable and should be eliminated.

District Heating Expansion Joints

Single Bellowed with welded ends			
Type	Expansion Amount	Available Sizes (DN)	Pressure Class (PN)
DSTKKB-1	±30/±105	50-1000	16





DN	ØD	s	L	Axial Movement (+/- mm)	Axial Spring Rate N/mm	Effective Bellow Area cm2	Life Cycle (100%)	Life Cycle (50%)	Life Cycle (33%)	Code
DN50	57	3,5	540	+/- 30	223,8	32,78	83	1130	5929	702.151.060.014
DN65	76	3,5	550	+/- 30	266,8	55,44	104	1388	7094	702.151.060.016
DN80	89	3,5	570	+/- 35	333,4	78,57	99	1406	7753	702.151.070.018
DN100	108	4	620	+/- 50	376,2	114,47	73	1029	5265	702.151.100.020
DN125	133	4	630	+/- 50	363,7	169,79	101	1351	6945	702.151.100.022
DN150	159	4,5	640	+/- 50	412,1	237,88	138	1885	9863	702.151.100.024
DN200	219	6	750	+/- 70	643,1	434,28	71	1003	5168	702.151.140.026
DN250	273	7	780	+/- 80	618,2	694,00	141	1912	9978	702.151.160.028
DN300	325	7	790	+/- 90	695,6	952,63	105	1409	7208	702.151.180.030
DN350	377	8	800	+/- 90	694,6	1285,59	171	2314	11986	702.151.180.032
DN400	426	8	840	+/- 100	681,3	1633,78	124	1592	7745	702.151.200.034
DN500	530	8	830	+/- 100	732,5	2464,00	161	2097	10414	702.151.200.038
DN600	630	8	890	+/- 100	851	3422,57	152	1968	9716	702.151.200.042
DN700	720	8	1010	+/- 105	975,5	4419,64	126	1618	7906	702.151.210.046
DN800	820	8	1050	+/- 105	1081,4	5676,79	117	1497	7266	702.151.210.050
DN900	920	10	1050	+/- 105	1215,7	7091,07	117	1487	7221	702.151.210.054
DN1000	1020	10	1080	+/- 105	1350	8662,50	116	1480	7185	702.151.210.058

* All the dimensions in the table are given in "mm".
** Subject to technical alterations and deviations resulting from the manufacturing process without giving any notification.

Reduction Factors for Pressure			
Temperature °C	Reduction Factor Kp	Temperature °C	Reduction Factor Kp
20	1,00	350	0,64
100	0,85	400	0,63
150	0,81	450	0,62
200	0,77	500	0,60
250	0,71	550	0,59
300	0,68	600	0,57

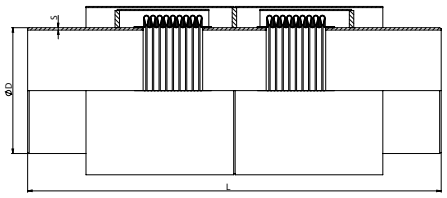
Pressure reduction factor

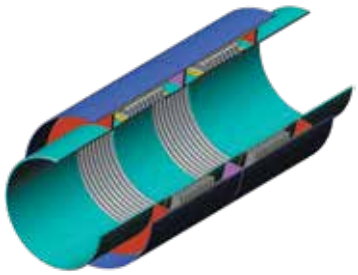
The reduction factor is used to define the design pressure [PS] where temperatures exceed 20 °C. It compensates for the decay in material mechanical properties at elevated temperatures. The calculated pressure is lower than the nominal pressure of the standard item.

Calculation: PS ≤ PN x Kp

District Heating Expansion Joints

Double Bellowed with welded ends			
Type	Expansion Amount	Available Sizes (DN)	Pressure Class (PN)
DSTKKB-2	±60/±210	50-1000	16





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DN65	76	3,5	880	+/- 60	111,9	55,44	104	1388	7094	702.152.060.016
DN80	89	3,5	920	+/- 70	166,7	78,57	99	1406	7753	702.152.070.018
DN100	108	4	1030	+/- 100	188,1	114,47	73	1029	5265	702.152.100.020
DN125	133	4	1050	+/- 100	181,85	169,79	101	1351	6945	702.152.100.022
DN150	159	4,5	1070	+/- 100	206,05	237,88	138	1885	9863	702.152.100.024
DN200	219	6	1280	+/- 140	321,55	434,28	71	1003	5168	702.152.140.026
DN250	273	7	1340	+/- 160	309,1	694,00	141	1912	9978	702.152.160.028
DN300	325	7	1370	+/- 180	347,8	952,63	105	1409	7208	702.152.180.030
DN350	377	8	1390	+/- 180	347,3	1285,59	171	2314	11986	702.152.180.032
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DN1000	1020	10	1930	+/- 210	675	8662,50	116	1480	7185	702.152.210.058

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