EXHAUST EXPANSION JOINTS

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Ayvaz's special stainless steel expansion joints with carbon steel weld ends are designed to be used for compensating movements and misalignments in exhaust systems in situations with relatively high axial or small lateral movements and combination of these at the same time. Due to the double ply bellows, exhaust expansion joints are more flexible an their life cycle is greater than the simple expansion joints. According to the maximum operating temperature, weld end material could also be made by stainless steel or nickel alloys.

Advantages of District Heating Expansion Joints

- Bellows design according to EJMA coding system.
- Construction according to EN14917 standard.
- Absortion of high axial and lateral movements
- High Life cycle design
- Lower spring rate values
- Easy installation and maintenance.

Application Areas

Exhaust Systems
Vibration absorption
Industrial process & applications

DESIGN (EN 14917&EJMA)

Bellow Material	Stainless Steel AISI 321 (Opt.304,316L,316TI,309)
Connection Types	Welded Ended
Welded End Material	Carbon steel St 37,2 or Stainless Steel
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 SEP (Sound Engineering Practice)

Operation Conditions

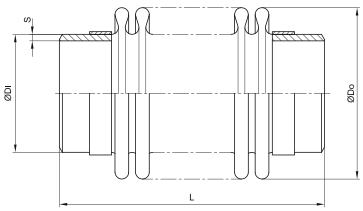
Operating Temperature	-10C°/+550C°, higher temperatures at peak conditions are possible.
Operating Pressure	Standard pressure rating is PN2,5 & PN6 PN corresponds to the allowable operating pressure at room temperature

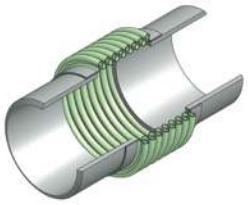
Important

For detailed information, get in contact with Ayvaz'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.

Exhaust Expansion Joints (PN2,5)

Exhaust Expansion Joints with Welded Ends					
Type	Movement Range (axial)	Movement Range (axial)	Pressure Class (PN)	Available Size (DN)	Definition
EGZKKB-1	±20/±40	±7/±15	2,5 Bar	DN40-DN5000	Carbon Steel Connections
EGZKKB-2					Stainless Steel Connections





Bellows Information							EGZKKB-1			EGZKKB-2		
DN	Ødi	Ødo	Effective Bellow Area cm^2	Axial Move-ment "±"	Lateral Move-ment "±"	Axial Spring Rate N/ mm	Pipe Thick-nes "s"	Total Length "L"	Code	Pipe Thickness "s"	Total Length "L"	Code
DN40	48,3	64,0	24	20	15	29	2,6	245	702051101110	2	245	702051111110
DN50	60,3	79,0	38	30	15	40	2,9	305	702051101112	2	305	702051111112
DN65	76,1	96,7	59	30	15	36	2,9	305	702051101114	2	305	702051111114
DN80	88,9	114,0	81	30	15	41	3,2	305	702051101116	2	305	702051111116
DN100	114,3	142,0	129	35	15	34	3,6	305	702051101118	2	305	702051111118
DN125	139,7	168,0	186	35	15	42	4,0	300	702051101120	2	300	702051111120
DN150	168,3	204,0	272	35	15	33	4,5	305	702051101122	2	305	702051111122
DN200	219,1	254,0	440	35	13	40	6,3	305	702051101124	2	305	702051111124
DN250	273,0	314,0	677	35	12	44	6,3	310	702051101126	2	310	702051111126
DN300	323,9	373,0	954	40	7	41	7,1	295	702051101128	2	295	702051111128
DN350	355,6	407,0	1142	40	8	47	8,0	325	702051101130	3	325	702051111130
DN400	406,4	457,0	1464	40	7	51	8,8	325	702051101132	3	325	702051111132

* 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
*** Movements are not in combination.

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 at elevated temperatures. The calculated pressure is lower than the nominal pressure of the standard item

Calculation: PS ≤ PN x Kp