

RUBBER

Expansion Joints

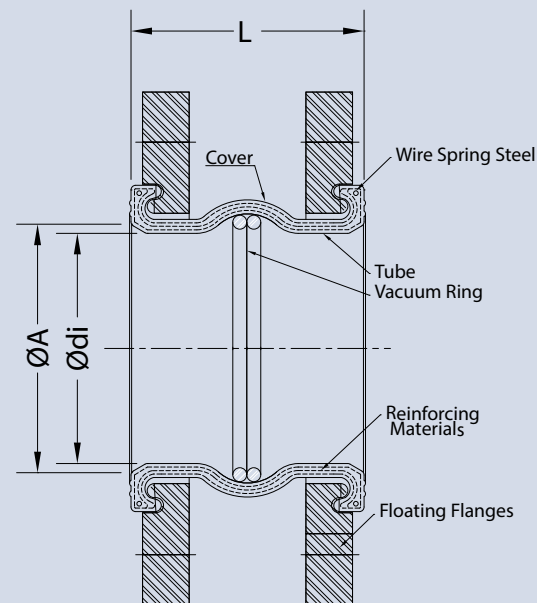
In order to offer a complete product range for our customers, we also supply rubber expansion joints.

Rubber expansion joints are flexible units that are manufactured from natural or synthetic elastomers or fluoroplastics. If necessary, a reinforcement of the bellow (steel, nylon or aramid) may be added. Rubber expansion joints are the perfect solution for pipe systems to absorb movements, vibrations or noise, resulting in the significantly prolonged service life of the pipe work and connected equipment.



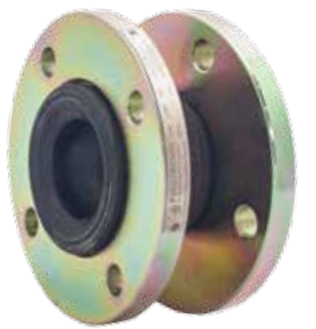
Advantages

- » Best solution to vibration, noise and misalignment problems
- » Up to 16 barg pressure and 110°C temperature working conditions
- » Rubber body with Nylon-Cord carcassed
- » Flanged construction with integral self-sealing profile
- » Flanges are electro galvanized carbon steel material
- » Minimal face to face dimensions
- » Lightweight
- » Low spring rates
- » Flanges with limit rod connections or limit rod kits are available
- » Optimum solution for narrow spaces, still able to absorb large movements due to the flexible body
- » Absorb axial, lateral, and angular movements
- » Safe, reliable, durable and maintenance free
- » Temperature, chemical, and corrosion resistant
- » Acoustical impedance
- » Greater shock resistance
- » No gaskets required
- » Can accommodate line misalignment



DESIGN VALUES

Body Material	EPDM, NBR, CR, SBR
Flange Material	Carbon Steel, Ductile Iron, Stainless Steel
Flange Norms	EN 1092, ANSI B16.5
Design Pressure	16 barg
Design Temperature	110°C



Applications

- » Power plants
- » Pumps
- » Off-shore applications
- » Sanitary piping systems
- » Slurry water pipelines
- » Cooling and chiller systems
- » Chemical plants
- » Shipbuilding pipelines and machine room pump stations
- » Water treatment plants
- » Sewage pipelines
- » Oil & gas plants
- » Pulp and paper plants
- » Absorption Chiller units
- » Desalination units
- » Heating, ventilating and air conditioning systems

Flanges

Carbon steel and cast iron are used as standard. Flanges are also available in zinc plated or HDG carbon steel, stainless steel or etc. Flanges are drilled to EN 1092, ANSI B16.5, JIS, AWWA standards or any specific dimension.

Body Material

EPDM

- » Good heat resistance
- » Suitable for alkaline waste water
- » Suitable for some chemical compounds except hydrocarbons
- » Not suitable for oils or fatty media

NBR

- » Oil and Fuel applications
- » Suitable for solvent and fats
- » Not suitable for hot water

CR

- » Suitable for some small groups of lyes and alkaline and acid salt solution.
- » Weather-resistant
- » Resistance to some chemicals

SBR

- » Good resistance to abrasive fluids
- » Highest mechanical properties
- » Good mechanical strength to sludge suspended stones, calcium, etc.

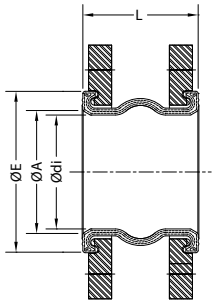
Tube	Common Name	Reinforcing	Cover	Bellows Colour	Temperature Range	Permissible Operating Data			Hardness	Burst Pressure
EPDM	EPDM	Nylon Cord C.	EPDM	Red Point	-35 / +110 °C	16barg@50°C	10barg@70°C	6barg@90°C		
NBR	Nitrile	Nylon Cord C.	EPDM	Yellow Point	-30 / +80 °C	16barg@30°C	10barg@50°C	6barg@70°C	60 ShoreA	45 barg
CR	Neoprene	Nylon Cord C.	EPDM	Blue Point	-30/ +70 °C	16barg@30°C	10barg@50°C	6barg@70°C		

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DN	L (Tolerance ± 5 mm)			Face of Bellows (Tolerance ± 3 mm)			Flange	Permissible Movements					Max. Vacuum	Weight			Spring Rates				
	Type A	Type B	Type C	Ødi	ØA	ØE	Thickness	Compression	Extension	Lateral	Angular	Effective Area	Without support Ring	with Flange S235JR Approx.	with Flange GGG40 Approx.	as only Body Approx.	Axial Compression	Axial Extension	Lateral	Angular	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	deg.	cm ²	bar abs.	kg	kg	kg	N/mm	N/mm	N/mm	Nm/deg.	
25	1"	100	130	170	30	37	61	14	20	10	10	25	15	0,7	2,6	-	0,15	20	26	69	0,06
32	1 1/4"	100	130	150	37	51	75,5	14	20	10	10	25	20	0,7	3	2,2	0,185	50	65	85	0,15
40	1 1/2"	100	130	150	37	51	75,5	14	20	10	10	25	20	0,7	3,5	3	0,185	50	65	85	0,15
50	2"	100	130	150	50	60	86,5	15	20	10	10	25	32	0,7	4	3,5	0,215	50	65	138	0,45
65	2 1/2"	100	130	150	62	76	100	15	20	10	10	20	44	0,7	5	4,5	0,305	52	70	150	0,75
80	3"	100	130	150	78	91	117	17	20	10	10	20	65	0,7	7	5	0,365	60	80	165	1,2
100	4"	100	130	150	100	112	139	17	20	10	10	15	101	0,7	8	5,5	0,44	60	80	185	2,8
125	5"	120	130	150	124	136	167	19	25	15	15	15	149	0,6	11	7,5	0,705	65	85	185	5
150	6"	120	130	150	150	161	197,5	19	25	15	15	10	210	0,6	13,5	10	0,92	110	145	190	9
200	8"	120	130	175	200	209	253	21	25	15	15	10	358	0,6	18,5	12,5	1,49	129	170	245	16
250	10"	130	250	100	253	262	310	23	30	15	15	5	558	0,5	25,5	19,5	2,275	175	230	325	36
300	12"	210	130	100	301	325	370	24	30	17	18	5	777	0,4	38	23,5	5,45	255	330	240	45
350	14"	210	230	160	355	380	435	26	30	17	18	4	1109	0,4	52	-	6,4	280	360	290	60
400	16"	220	235	-	400	417	477	28	35	19	19	3,5	1457	0,4	65	-	7,5	310	400	335	80
450	18"	220	250	-	450	474	533	28	35	20	19	3,2	1815	0,4	74	-	8	340	450	380	118
500	20"	270	200	100	495	515	585	30	40	25	20	2,8	2171	0,3	90	-	9	390	510	310	115
600	24"	300	-	-	595	615	685	30	48	27	20	2,5	3155	0,2	140	-	15	470	600	370	230
700	28"	300	-	-	700	716	786	30	48	27	20	2,5	4240	0,2	153	-	18	520	690	427	325

Please consult with our technical department for different working conditions and design parameters.