

Solutions

metal bellows
PTFE bellows
large rubber bellows
metal hose assemblies
manufacturing & design



Welcome

FlexEJ offers a broad range of pipe expansion joints and pressure fabrications; we are both stockist and manufacturer with factories in the UK and Spain.

- Rubber and metal pipe expansion joints from DN15 to over DN3600
- Metal hose assemblies
- Dosing pots, air & dirt separators and low loss headers for HVAC applications
- Pressure vessels and fabrications

We are accredited to ISO9001, ISO14000 and the PED. As required we offer full material traceability, documentation and compliance with client specifications – our welders are qualified to both EN and ASME.

You can also buy a wide range of stock expansion joints and HVAC fabrications direct from our web shop at flexej.co.uk with next day delivery.

We are here to help; please get in touch by phone, email or via the website live chat facility. We will be delighted to assist you in selecting the right stock product through to developing a unique design for your application.

Tim Robinson
Director

FlexEJ Ltd

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Industrial Metal Axial Long/short

Specification

Stainless steel 316 punch formed bellows designed to EJMA with stainless steel liner. Customer choice of any flange or weld end in carbon or stainless steel. Available in long and short versions; length to order within given range.

Tied, hinged or gimbal restraints available.

Not suitable for drinking water – please enquire for our WRAS or DWI approved products.

Materials

- Bellows 316 stainless steel
- Liner Stainless steel
- Flanges or weld ends Any commonly available carbon or stainless grade

Operating conditions

Intended for industrial applications up to 300°C design – steam, exhaust gases, process.

Rating

16 Barg @ 180°C to 12 Barg @ 300°C

Notes

The minimum and maximum lengths shown in the table are the available range of nominal lengths supplied.



Size – long	Minimum length	Maximum length	Axial Comp.	Axial Ext.
in.	mm	mm	mm	mm
DN100-4"	210	450	30	30
DN125-5"	210	480	35	35
DN150-6"	250	500	35	35
DN200-8"	250	550	35	35
DN250-10"	250	600	35	35
DN300-12"	280	600	40	40
DN350-14"	280	600	40	40
DN400-16"	300	600	40	40

Size – short	Minimum length	Maximum length	Axial Comp.	Axial Ext.
in.	mm	mm	mm	mm
DN040-1½"	180	300	15	15
DN050-2"	180	300	15	15
DN065-2½"	180	400	15	15
DN080-3"	180	500	15	15
DN100-4"	180	500	15	15
DN125-5"	180	500	15	15
DN150-6"	180	500	15	15
DN200-8"	220	500	15	15
DN250-10"	220	500	15	15

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Industrial Metal Pump

Specification

Stainless steel 316 punch formed bellows designed to EJMA with optional stainless steel liner. Customer choice of any flange or weld end in carbon or stainless steel. Available in long and short versions; length to order within given range.

Tied version available.

Not suitable for drinking water – please enquire for our WRAS or DWI approved products

Materials

- Bellows 316 stainless steel
- Liner (optional) Stainless steel
- Flanges or weld ends Any commonly available carbon or stainless grade

Operating conditions

Intended for industrial applications up to 300°C design – steam, exhaust gases, process.

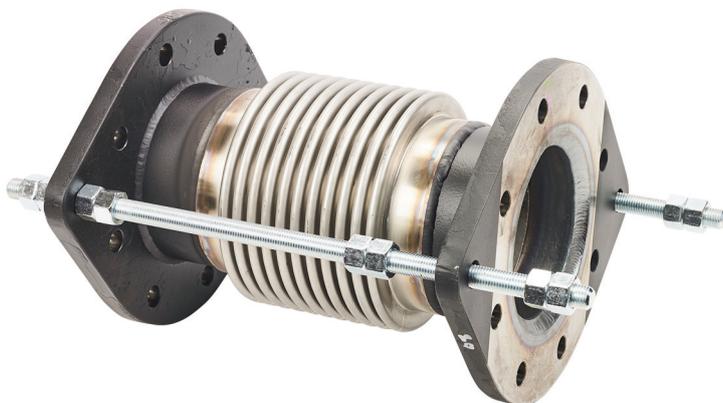
Rating

16 Barg @ 180°C to 12 Barg @ 300°C

Notes

The minimum and maximum lengths shown in the table are the available range of nominal lengths supplied.

Size	Minimum length	Maximum length	Lateral
in.	mm	mm	mm
DN050-2"	130	330	±3
DN065-2½"	130	390	±3
DN080-3"	130	400	±3
DN100-4"	130	400	±3
DN125-5"	150	400	±3
DN150-6"	150	400	±3
DN200-8"	200	400	±3
DN250-10"	200	400	±3
DN300-12"	200	400	±3
DN350-14"	200	400	±3
DN400-16"	200	400	±3



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Safetech

Large rubber bellows

Safetech is FlexEJ's sister company located in Spain. Safetech designs and manufactures rubber bellows in its dedicated facility near Bilbao. This ability to hand build rubber expansion joints means we can offer lengths, diameters, movements, materials, restraints and rating to meet your precise requirements. Pressure balanced rubber expansion joints and PTFE lined rubber expansion joints are just two of the specialty products we design and manufacture.

Multiple arch engineered rubber bellows

Each additional arch in the bellows provides additional movement capability. The length of the expansion joint can be adjusted to suit your piping layout or existing equipment meaning the full movement capacity of the bellows is available to you in all cases.

Pressure balanced engineered rubber bellows

A pressure balanced rubber expansion joint uses two rubber bellows to provide the movement specified and a third, larger diameter rubber bellows to generate an equal pressure force. Net result no pressure force acting on your pipe, flanges or equipment.

Linings and liners PTFE, stainless steel

Safetech can provide a PTFE lining in any of its rubber bellows, the PTFE affording greater chemical resistance than the rubber. We also provide a variety of stainless steel 'top hat' liners.

Restraint hardware tie rods, lugs, hinges, collars

Safetech's preferred design is to manufacture the flange backing ring in segments with integral tie rod lugs. Safetech can also supply one piece flanges if requested. If the joint is to be used to allow easy dismantling of line equipment we can also provide a dismantling collar on the bellows which allows the tie rods to compress the convolution(s) to ease removal.



SAFETECH

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Safetech

Single / Double / Triple / Quad Arch

Specification

Flexel CG21 series full face fully engineered rubber expansion joint available in a wide variety of rubber compounds to suit the media. Flange drilling and backing flanges provided to any specification. Available as tied, untied, hinged and gimbal designs with a wide range of configurable options such as liners.

Each additional arch adds 150mm to the minimum length of the bellows and increases the movement capability proportionately.



Elastomer	Colour code	Main applications	Max temp.
Natural	Green	Abrasive media	80°C
Neoprene	Yellow	Seawater, circulating water, fire	110°C
EPDM HT	Yellow – Yellow	Seawater, hot water, waste water, high temperatures	140°C
EPDM FG*	Yellow – Yellow	Drinking water, foodstuffs	80°C
Nitrile	White	Oils, gasoline, aliphatic hydrocarbons	110°C
Butyl	Red	Diluted acids and chemicals, gases, weathering	100°C
Hypalon	Red – Green	Strong acids, alkalis, chemicals, weathering	110°C
Viton	Green – Green	Strong acids, alkalis, chemicals, various hydrocarbons	180°C

* Certified by FDA or WRAS

DN		Length		PN	Movement capability			
mm	in.	mm	bar		Compression mm	Extension mm	Lateral mm	Angular deg
600	24"	300	10		38	25	25	4.4
700	28"	300	10		38	25	25	4
800	32"	300	10		38	25	25	4.9
900	36"	300	10		38	25	25	3.4
1000	40"	300	10		55	35	35	3.1
1050	42"	300	10		55	35	35	3
1100	44"	300	10		55	35	35	2.9
1150	46"	300	10		55	35	35	2.6
1200	48"	300	10		55	35	35	2.5
1250	50"	300	8		55	35	35	2.5
1300	52"	350	8		55	35	35	2.4
1350	54"	350	8		55	35	35	2.3
1400	56"	350	8		55	35	35	2.2
1450	58"	350	8		55	35	35	2.1
1500	60"	350	8		55	35	35	2.1
1600	64"	350	7		55	35	35	2
1650	66"	350	7		55	35	35	1.9
1700	68"	350	7		55	35	35	1.9
1800	72"	350	7		55	35	35	1.8
1900	76"	350	6		55	35	35	1.5
1950	78"	350	6		55	35	35	1.5
2000	80"	350	6		55	35	35	1.5
2100	84"	350	6		55	35	35	1.4
2200	88"	350	6		55	35	35	1.4
2250	90"	350	6		55	35	35	1.4
2300	92"	350	6		55	35	35	1.3
2400	96"	350	6		55	35	35	1.3
2500	100"	350	5		55	35	35	1.2
2550	102"	350	5		55	35	35	1.2
2600	104"	350	5		55	35	35	1.2
2700	108"	350	5		55	35	35	1.2
2800	112"	350	5		55	35	35	1.1
2850	114"	350	4		55	35	35	1.1
2900	116"	350	4		55	35	35	1.1
3000	120"	350	4		55	35	35	1

SAFETECH

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Vaneflon-R

PTFE expansion bellows

Pressure Vacuum	2 convolution bellows				3 convolution bellows				4 convolution bellows				5 convolution bellows				6 convolution bellows			
	10 Barg @ 50°C to 2 Barg @ 235°C FV @ 130°C to 0.0 Barg @ 170°C				10 Barg @ 50°C to 2 Barg @ 235°C FV @ 50°C to 0.0 Barg @ 140°C				6 Barg @ 50°C to 1 Barg @ 235°C -0.25 Barg @ 0°C to 0.0 Barg @ 60°C				6 Barg @ 50°C to 1 Barg @ 235°C -0.25 Barg @ 0°C to 0.0 Barg @ 60°C				6 Barg @ 50°C to 1 Barg @ 235°C -0.25 Barg @ 0°C to 0.0 Barg @ 60°C			
Size degree	Length mm	Axial ±mm	Lateral ±mm	Ang ±deg	Length mm	Axial ±mm	Lateral ±mm	Ang ±deg	Length mm	Axial ±mm	Lateral ±mm	Ang ±deg	Length mm	Axial ±mm	Lateral ±mm	Ang ±deg	Length mm	Axial ±mm	Lateral ±mm	Ang ±deg
25-1"	42	9	6	13	54	13	9	19	67	18	12	26	79	22	15	32	91	27	18	39
32-1¼"	51	9	6	12	66	13	9	18	81	18	12	24	96	22	15	30	112	27	18	36
40-1½"	52	10	7	12	68	15	10	18	84	20	14	24	100	25	17	30	117	30	21	36
50-2"	52	10	7	11	69	15	10	16	85	20	14	22	101	25	17	27	117	30	21	33
65-2½"	58	11	8	10	79	16	12	15	101	22	16	20	122	27	20	25	143	33	24	30
80-3"	62	11	8	10	87	16	12	15	112	22	16	20	137	27	20	25	162	33	24	30
100-4"	64	12	9	9	90	18	13	13	117	24	18	18	143	30	22	22	169	36	27	27
125-5"	74	13	9	8	100	19	13	12	126	26	18	16	151	32	22	20	177	39	27	24
150-6"	76	14	9	7	103	21	13	10	130	28	18	14	155	35	22	17	182	42	27	21
200-8"	77	15	10	6	105	22	15	9	133	30	20	12	161	37	25	15	186	45	30	18
250-10"	78	16	10	6	108	24	15	9	137	32	20	12	166	40	25	15	196	48	30	18
300-12"	80	16	10	5	110	24	15	7	140	32	20	10	170	40	25	12	200	48	30	15
350-14"	91	17	10	5	122	25	15	7	154	34	20	10	185	42	25	12	216	51	30	15
400-16"	93	17	10	4	125	25	15	6	157	34	20	8	189	42	25	10	221	51	30	12
450-18"	105	17	10	4	138	25	15	6	172	34	20	8	206	42	25	10	239	51	30	12
500-20"	105	18	11	4	138	27	16	6	172	36	22	8	206	45	27	10	239	54	33	12
600-24"	105	18	11	3	139	27	16	4	173	36	22	6	207	45	27	7	241	54	33	9

Description

PTFE bellows offer excellent media compatibility and corrosion resistance. High quality PTFE bellows formed from multi-laminated tubes that ensure an absolute minimum porosity and a homogeneous wall-thickness.

Flanges

Any drilling/standard available. Coated carbon steel standard, options for stainless steels or high alloys to order. Note flanges are drilled and tapped, through bolting is not offered.

Limit rods

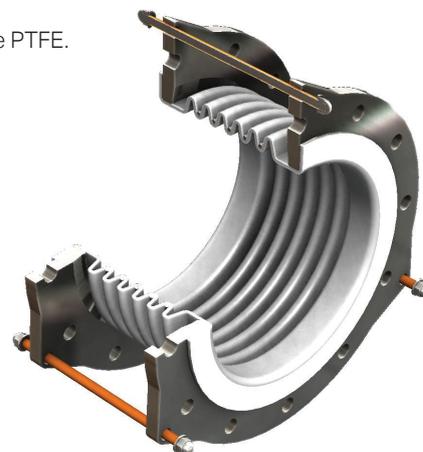
Standard for PTFE joints. Tie rods, hinges or gimbals also available.

Support rings

External in the bellows convolution root, 304 stainless steel standard. Options for other stainless steels or high alloys to order. Some bellows may also require intermediate support flanges.

Options

Liner, electrically conductive PTFE.

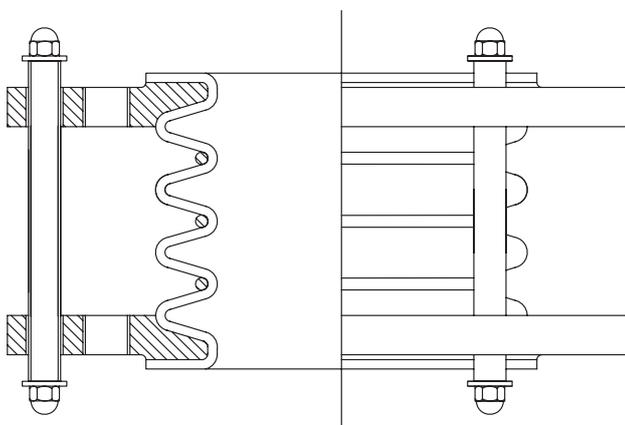


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Vaneflon-R PTFE expansion bellows

Pressure Vacuum	7 convolution bellows				8 convolution bellows				9 convolution bellows				10 convolution bellows			
	2.5 Barg @ 50°C to 0.5 Barg @ 200°C -0.25 Barg @ 0°C to 0.0 Barg @ 60°C				2.5 Barg @ 50°C to 0.5 Barg @ 200°C -0.25 Barg @ 0°C to 0.0 Barg @ 60°C				2.5 Barg @ 50°C to 0.5 Barg @ 200°C -0.25 Barg @ 0°C to 0.0 Barg @ 60°C				2.5 Barg @ 50°C to 0.5 Barg @ 200°C -0.25 Barg @ 0°C to 0.0 Barg @ 60°C			
Size degree	Length mm	Axial ±mm	Lateral ±mm	Ang ±deg												
25-1"	104	31	21	45	116	36	24	52	128	40	27	58	140	45	30	65
32-1¼"	127	31	21	42	142	36	24	48	157	40	27	54	172	45	30	60
40-1½"	133	35	24	42	149	40	28	48	165	45	31	54	181	50	35	60
50-2"	133	35	24	38	149	40	28	44	165	45	31	49	181	50	35	55
65-2½"	165	38	28	35	186	44	32	40	208	49	36	45	229	55	40	50
80-3"	188	38	28	35	212	44	32	40	238	49	36	45	263	55	40	50
100-4"	196	42	31	31	221	48	36	36	248	54	40	40	274	60	45	45
125-5"	204	45	31	28	229	52	36	32	255	58	40	36	281	65	45	40
150-6"	209	49	31	24	234	56	36	28	262	63	40	31	289	70	45	35
200-8"	215	52	35	21	243	60	40	24	268	67	45	27	296	75	50	30
250-10"	225	56	35	21	254	64	40	24	284	72	45	27	313	80	50	30
300-12"	230	56	35	17	261	64	40	20	291	72	45	22	321	80	50	25
350-14"	246	59	35	17	277	68	40	20	308	76	45	22	338	85	50	25
400-16"	251	59	35	14	283	68	40	16	315	76	45	18	345	85	50	20
450-18"	269	59	35	14	303	68	40	16	NA	76	45	18	NA	85	50	20
500-20"	273	63	38	14	303	72	44	16	336	81	49	18	370	90	55	20
600-24"	274	63	38	10	304	72	44	12	338	81	49	13	372	90	55	15



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Vaneflon-RHD

PTFE expansion bellows – heavy duty

	2 convolution bellows				3 convolution bellows				4 convolution bellows				5 convolution bellows				6 convolution bellows			
Pressure	16 Barg @ 50°C to 3 Barg @ 235°C				16 Barg @ 50°C to 3 Barg @ 235°C				10 Barg @ 50°C to 2 Barg @ 235°C				10 Barg @ 50°C to 2 Barg @ 235°C				10 Barg @ 50°C to 2 Barg @ 235°C			
Vacuum	FV @ 180°C to 0.0 Barg @ 220°C				FV @ 130°C to 0.0 Barg @ 170°C				FV @ 50°C to 0.0 Barg @ 140°C				FV @ 50°C to 0.0 Barg @ 140°C				-0.5 Barg @ 0°C to 0.0 Barg @ 70°C			
Size	Length	Axial	Lateral	Ang	Length	Axial	Lateral	Ang												
degree	mm	±mm	±mm	±deg	mm	±mm	±mm	±deg												
25-1"	44	6	4	9	56	9	6	13	69	12	8	18	81	15	10	22	93	18	12	27
32-1¼"	53	6	4	8	68	9	6	12	83	12	8	16	98	15	10	20	113	18	12	24
40-1½"	54	7	5	8	70	10	7	12	86	14	10	16	102	17	12	20	119	21	15	24
50-2"	54	7	5	7	71	10	7	10	87	14	10	14	103	17	12	17	119	21	15	21
65-2½"	60	8	6	7	81	12	9	10	103	16	12	14	124	20	15	17	145	24	18	21
80-3"	64	8	6	7	89	12	9	10	115	16	12	14	140	20	15	17	165	24	18	21
100-4"	66	9	6	6	92	13	9	9	119	18	12	12	145	22	15	15	171	27	18	18
125-5"	77	9	6	6	103	13	9	9	129	18	12	12	154	22	15	15	180	27	18	18
150-6"	78	10	6	5	105	15	9	7	133	20	12	10	158	25	15	12	185	30	18	15
200-8"	80	10	7	4	108	15	10	6	136	20	14	8	164	25	17	10	189	30	21	12
250-10"	81	11	7	4	110	16	10	6	140	22	14	8	169	27	17	10	199	33	21	12
300-12"	83	11	7	3	113	16	10	4	143	22	14	6	173	27	17	7	203	33	21	9
350-14"	94	12	7	3	125	18	10	4	157	24	14	6	188	30	17	7	219	36	21	9
400-16"	96	12	7	3	128	18	10	4	160	24	14	6	192	30	17	7	224	36	21	9
450-18"	108	12	7	3	141	18	10	4	175	24	14	6	209	30	17	7	243	36	21	9
500-20"	108	13	8	3	142	19	12	4	175	26	16	6	209	32	20	7	243	39	24	9
600-24"	109	13	8	2	143	19	12	3	177	26	16	4	210	32	20	5	244	39	24	6

Description

PTFE bellows offer excellent media compatibility and corrosion resistance. High quality heavy duty PTFE bellows formed from multi-laminated tubes that ensure an absolute minimum porosity and a homogeneous wall-thickness.

Flanges

Any drilling/standard available. Coated carbon steel standard, options for stainless steels or high alloys to order. Note flanges are drilled and tapped, through bolting is not offered.

Limit rods

Standard for PTFE joints. Tie rods, hinges or gimbals also available.

Support rings

External in the bellows convolution root, 304 stainless steel standard. Options for other stainless steels or high alloys to order. Some bellows may also require intermediate support flanges.

Options

Liner, electrically conductive PTFE.



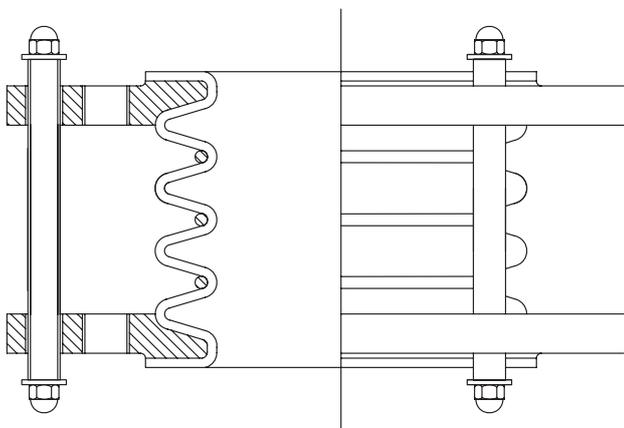
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Vaneflon-RHD

PTFE expansion bellows – heavy duty

Pressure Vacuum	7 convolution bellows				8 convolution bellows				9 convolution bellows				10 convolution bellows			
	6 Barg @ 50°C to 1 Barg @ 235°C -0.5 Barg @ 0°C to 0.0 Barg @ 70°C				6 Barg @ 50°C to 1 Barg @ 235°C -0.5 Barg @ 0°C to 0.0 Barg @ 70°C				6 Barg @ 50°C to 1 Barg @ 235°C -0.5 Barg @ 0°C to 0.0 Barg @ 70°C				6 Barg @ 50°C to 1 Barg @ 235°C -0.5 Barg @ 0°C to 0.0 Barg @ 70°C			
Size degree	Length mm	Axial ±mm	Lateral ±mm	Ang ±deg												
25-1"	106	21	14	31	118	24	16	36	130	27	18	40	142	30	20	45
32-1¼"	129	21	14	28	144	24	16	32	159	27	18	36	174	30	20	40
40-1½"	135	24	17	28	151	28	20	32	167	31	22	36	183	35	25	40
50-2"	135	24	17	24	151	28	20	28	167	31	22	31	183	35	25	35
65-2½"	167	28	21	24	188	32	24	28	210	36	27	31	231	40	30	35
80-3"	190	28	21	24	215	32	24	28	240	36	27	31	265	40	30	35
100-4"	198	31	21	21	224	36	24	24	250	40	27	27	276	45	30	30
125-5"	206	31	21	21	231	36	24	24	257	40	27	27	283	45	30	30
150-6"	212	35	21	17	237	40	24	20	264	45	27	22	291	50	30	25
200-8"	217	35	24	14	245	40	28	16	270	45	31	18	298	50	35	20
250-10"	228	38	24	14	257	44	28	16	287	49	31	18	316	55	35	20
300-12"	233	38	24	10	264	44	28	12	294	49	31	13	324	55	35	15
350-14"	249	42	24	10	280	48	28	12	311	54	31	13	341	60	35	15
400-16"	254	42	24	10	286	48	28	12	318	54	31	13	348	60	35	15
450-18"	273	42	24	10	306	48	28	12	NA	54	31	13	NA	60	35	15
500-20"	276	45	28	10	306	52	32	12	340	58	36	13	373	65	40	15
600-24"	278	45	28	7	308	52	32	8	342	58	36	9	376	65	40	10



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Metal Hose Assemblies

FlexEJ designs and manufactures fully engineered metal hose assemblies in diameters from DN6 to DN200. Hose core materials available include 321 stainless steel, 316 stainless steel, Monel 400 Hastelloy C276 and alloy 625. FlexEJ specialises in engineering and manufacturing metal hose assemblies to order. Full documentation packages, NDT, material traceability and testing are all part of what we offer.

External braids and spirals – eliminate pressure force

The external braid is not added to the hose for mechanical protection. It is a key component and considerably increases the pressure rating of the hose assembly by restraining the pressure force. Single braid is the most common but we can also supply with double and triple braids for higher pressures. If mechanical protection is required then we can add an external spiral which keeps the braid off the ground if being used for loading/unloading for example.

Movements loops, laterals

Hose does not move in the same way as an expansion joint; there must be no axial movement or torsion – all movements should be the result of angulation. Movement ideally should be lateral, in a single plane, with the hose or piping incorporating elbows to achieve this as required.

The allowable bending radius for the hose depends on the type of motion the hose will experience, this is described as:

- Single motion: infrequent or installation-only movement
- Repeated motion: low frequency/motion without major dynamic demand
- Dynamic motion: higher frequency/continuous motion with dynamic demand.



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Metal Hose Assemblies

Range table

Performance data shown is typical for 321 stainless steel hose core. The rating chart shows temperature deration only; movements must also be taken into account in the final design pressure calculation.

The dynamic bend radius shown applies to a moderate repeated motion without high acceleration, pressure pulsation or other additional load.

Size DN	Braid	Length	Rating	Movements	
				Static bend radius mm	Dynamic bend radius mm
6-1/4"	0	Any	10 Barg @ 20°C to 5 Barg @ 500°C	16	110
10-3/8"	0	Any	5.5 Barg @ 20°C to 2.75 Barg @ 500°C	22	150
12-1/2"	0	Any	5.5 Barg @ 20°C to 2.75 Barg @ 500°C	24	165
16-5/8"	0	Any	5 Barg @ 20°C to 2.5 Barg @ 500°C	28	195
20-3/4"	0	Any	4.1 Barg @ 20°C to 2.05 Barg @ 500°C	30	200
25-1"	0	Any	4.1 Barg @ 20°C to 2.05 Barg @ 500°C	44	200
32-1 1/4"	0	Any	3.4 Barg @ 20°C to 1.7 Barg @ 500°C	55	250
40-1 1/2"	0	Any	2.4 Barg @ 20°C to 1.2 Barg @ 500°C	70	250
50-2"	0	Any	1 Barg @ 20°C to 0.5 Barg @ 500°C	90	350
65-2 1/2"	0	Any	1 Barg @ 20°C to 0.5 Barg @ 500°C	110	410
80-3"	0	Any	1 Barg @ 20°C to 0.5 Barg @ 500°C	130	450
100-4"	0	Any	0.1 Barg @ 20°C to 0.05 Barg @ 500°C	131	530
125-5"	0	Any	0.1 Barg @ 20°C to 0.05 Barg @ 500°C	189	800
150-6"	0	Any	0.1 Barg @ 20°C to 0.05 Barg @ 500°C	216	1050
200-8"	0	Any	0.1 Barg @ 20°C to 0.05 Barg @ 500°C	281	1300
6-1/4"	1	Any	167 Barg @ 20°C to 83.5 Barg @ 500°C	25	110
10-3/8"	1	Any	100 Barg @ 20°C to 50 Barg @ 500°C	38	150
12-1/2"	1	Any	74 Barg @ 20°C to 37 Barg @ 500°C	45	165
16-5/8"	1	Any	70 Barg @ 20°C to 35 Barg @ 500°C	50	195
20-3/4"	1	Any	65 Barg @ 20°C to 32.5 Barg @ 500°C	70	200
25-1"	1	Any	50 Barg @ 20°C to 25 Barg @ 500°C	85	200
32-1 1/4"	1	Any	39 Barg @ 20°C to 19.5 Barg @ 500°C	105	250
40-1 1/2"	1	Any	35 Barg @ 20°C to 17.5 Barg @ 500°C	127	250
50-2"	1	Any	30 Barg @ 20°C to 15 Barg @ 500°C	160	350
65-2 1/2"	1	Any	26 Barg @ 20°C to 13 Barg @ 500°C	200	410
80-3"	1	Any	22 Barg @ 20°C to 11 Barg @ 500°C	230	450
100-4"	1	Any	20 Barg @ 20°C to 10 Barg @ 500°C	218	530
125-5"	1	Any	20 Barg @ 20°C to 10 Barg @ 500°C	315	800
150-6"	1	Any	23 Barg @ 20°C to 11.5 Barg @ 500°C	360	1050
200-8"	1	Any	15 Barg @ 20°C to 7.5 Barg @ 500°C	468	1300
6-1/4"	2	Any	220 Barg @ 20°C to 110 Barg @ 500°C	25	110
10-3/8"	2	Any	178 Barg @ 20°C to 89 Barg @ 500°C	38	150
12-1/2"	2	Any	103 Barg @ 20°C to 51.5 Barg @ 500°C	45	165
16-5/8"	2	Any	125 Barg @ 20°C to 62.5 Barg @ 500°C	50	195
20-3/4"	2	Any	86 Barg @ 20°C to 43 Barg @ 500°C	70	200
25-1"	2	Any	76 Barg @ 20°C to 38 Barg @ 500°C	85	200
32-1 1/4"	2	Any	57 Barg @ 20°C to 28.5 Barg @ 500°C	105	250
40-1 1/2"	2	Any	55 Barg @ 20°C to 27.5 Barg @ 500°C	127	250
50-2"	2	Any	44 Barg @ 20°C to 22 Barg @ 500°C	160	350
65-2 1/2"	2	Any	46 Barg @ 20°C to 23 Barg @ 500°C	200	410
80-3"	2	Any	40 Barg @ 20°C to 20 Barg @ 500°C	230	450

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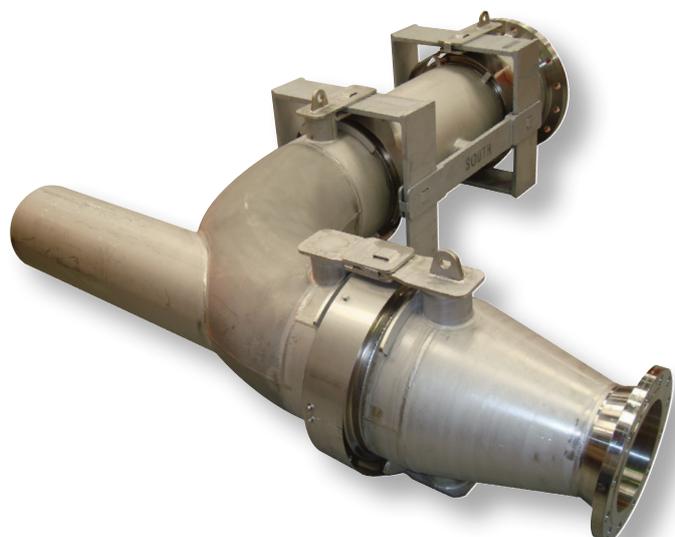
Metal expansion joints

Design & manufacture

We offer full multi-case, concurrent/non concurrent movement design using our own EJMA10 bellows and hardware calculation tools. Metal bellows design is an iterative process, the task is to search for the optimum solution: a rugged, long life bellows which can still provide the required movements at the specified pressure and temperature. The more we understand about your application the closer to that optimum we will be able to get.

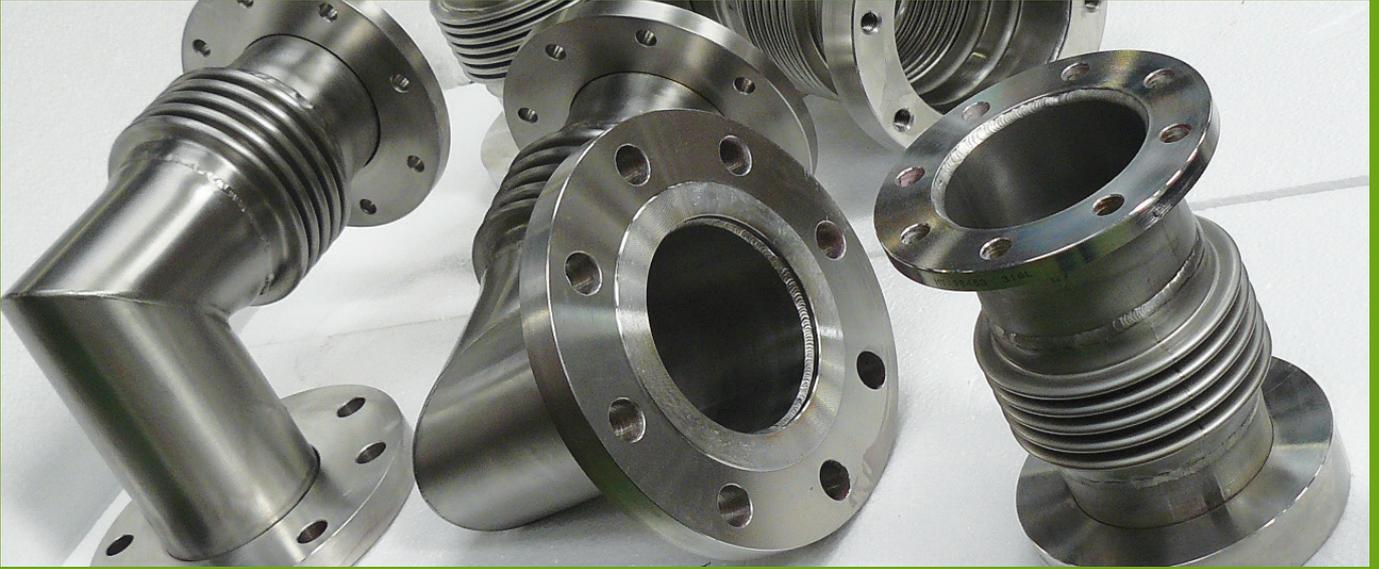
FlexEJ has developed and qualified its own integrated suite of tools for bellows design to EJMA10, component temperature modelling and restraint design for tie rods, hinges and gimbals. Overall design is to B31.3 or EN13445 with PED as appropriate supported by SolidWorks, FEA and thermal modelling for high temperature designs requiring internal insulation. We are happy to work to any client specifications and to submit full design and manufacturing documentation for approval.

Bellows materials include 304, 321 316(H), 625, 800(H), 825 and expansion joint materials include carbon steels, CrMo, stainless steels and all can be supplied with liners, covers, tie rods, hinges, gimbals, pressure balanced, insulation, refractory as required – delivering a complete pipe expansion joint to your exact requirements.



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FlexEJ: a manufacturing partner

Manufacturing partner OEM, pressure envelope

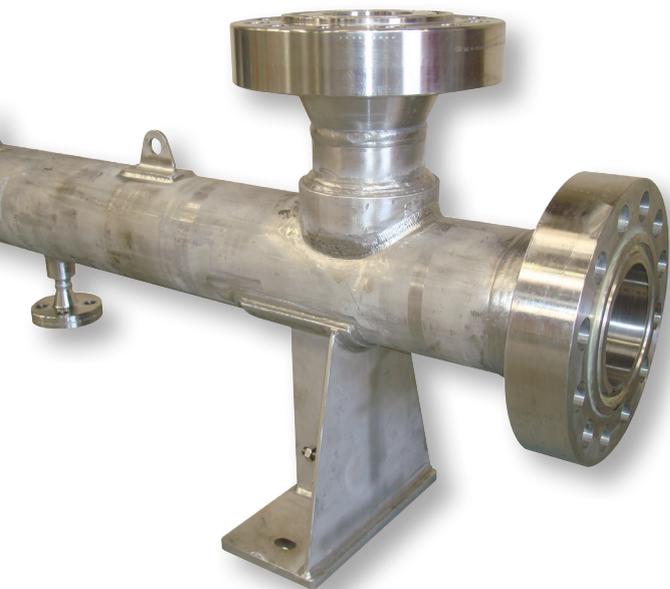
FlexEJ has an established history of working in close partnership with OEMs. We can accommodate any scope requirement – build to print, packaging, through to full design and manufacture. Success requires a close working relationship and our commitment to on-time delivery of error-free product.

Flexibility – new products, variations, specials, varying demand by product line. We have developed the systems to enable us to work with our customers and to be as responsive as possible to the normal – and unusual – demands of their markets.

Proactive management – to be responsive we must be proactive in stock control, planning, and capacity. We have developed systems to allow us to do this efficiently and to optimise batch and stock levels.

Design & documentation – savings, improvements, simplifications, new products. We undertake full product design and development for some of our customers and build to print for others. For all our customers we provide the documentation they require in the format specified.

Our experience allows us to provide a comprehensive, competitive and engaged service to any OEM looking for a long-term pressure fabrication partner.



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Pressure fabrication

Packages & pressure equipment



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Pressure vessels

Design, engineering & manufacture

FlexEJ specialises in the manufacture of small to medium pressure vessels. Backed up by our team of engineers and support office staff, we are known for high quality work, with excellent manufacturing documentation.

We use PV Elite suite for calculations which integrates with our Solid Works for design and detailing. Material traceability and NDT are both managed through a specially developed database which integrates with our business system for instant reporting and indexing/ retrieval of certification, ready for inclusion in the manufacturing data book.

Additionally, we offer build-to-print where the code calculation has been completed by others and the design envelope exists, or we can take concept drawings forward to full manufacturing designs.



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FlexEJ designs and manufactures in carbon steels, stainless steels and nickel alloys.

We can build to meet your exact specifications and requirements – contact us and we will be pleased to help.



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