

FTF Twin Sphere Rubber Expansion Joints



Description

A flexible joint made of heat resisting synthetic elastomers and moulded in a twin sphere shape with vanstoned metal floating flanges, pipe unions or threaded mating flanges.

Principal Applications

Ideal for applications requiring large axial, lateral and angular movements. Industries include shipbuilding, power generation, chemical plants and buildings.

Movement Capabilities

- Axial
- Lateral
- Angular

Style FTF joints are not capable of absorbing more than one movement at a time (i.e. non-concurrent), nor absorbing torsional (i.e twisting) movement.



Material Type Options

Type BB	- (Outer) Chloro Butyl	- (Inner) Chloro Butyl	- (Max Temp.) 120°C
Type EE	- (Outer) EPDM	- (Inner) EPDM	- (Max Temp.) 120°C
Type NH	- (Outer) Neoprene	- (Inner) Hypalon	- (Max Temp.) 120°C
Type NN	- (Outer) Neoprene	- (Inner) Neoprene	- (Max Temp.) 105°C
Type NP	- (Outer) Neoprene	- (Inner) Nitrile (Buna-N)	- (Max Temp.) 100°C

Manufacture

Manufactured from heat and chemical resisting elastomers of special composition superior to natural or chloroprene rubber, reinforced with tough nylon fibre cord. The moulded vanstone flange has imbedded in its wall a high tensile wire to ensure rigidity. A heavy duty expansion joint is available for pressures up to 2300kpa (335psi) which has a reinforcing ring attached on the outside of the joint between the twin spheres.

Flanges

These joints are fitted with metal floating flanges drilled to ANSI, BS Tables, JIS and DIN. The most common drillings are ANSI 150, BS Table E and DIN 16. **Note:** the flange thicknesses are all basically the same and are not necessarily in accordance with the relevant flange standard.

The standard joint is fitted with plated carbon steel flanges.

Hot dip galvanised and stainless steel flanges are also available on special order.

Joint Lengths

The moulded spherical rubber expansion joints are available in three ranges of lengths. These three ranges are identified as styles FTF, FTFA and FTFB as per the attached specifications.

Although there is no specific standard on the lengths the styles are generally used in different parts of the world as follows:

Style FTF	- Asia, Australasia, Japan, Pacific
Style FTFA	- Americas
Style FTFB	- Europe

Specifications

(on following pages)

**Style FTF Twin Sphere
Rubber Expansion Joints**



style FTF

nominal bore		length installed mm			allowable movements from free length				pressure @ 80°C		weight per unit
inside mm	inches	free	min	max	axial mm comp	axial mm elong	lateral mm	angular deg	positive kPa	vacuum mm H.g.	kgs
32	1 1/4	175	137	190	53	30	45	40	1600	600	2.4
40	1 1/2	175	137	190	53	30	45	40	1600	600	3.1
50	2	175	137	190	53	30	45	40	1600	600	4.1
65	2 1/2	175	137	190	53	30	45	40	1600	600	6.0
80	3	175	137	190	53	30	45	40	1600	600	6.5
100	4	225	187	242	53	31	40	35	1600	600	9.2
125	5	225	187	242	53	31	40	35	1600	600	11.1
150	6	225	187	242	53	31	40	35	1600	600	13.4
200	8	325	280	342	63	35	35	30	1600	600	20.0
250	10	325	280	342	63	35	35	30	1600	600	29.0
300	12	325	280	342	63	35	35	30	1600	600	43.0
350	14	350	315	364	45	30	30	20	1034	600	61.0
400	16	350	315	364	45	30	30	20	860	600	79.0
450	18	350	315	364	45	30	30	20	860	600	82.0
500	20	350	315	364	45	30	30	20	860	600	84.0
600	24	350	315	364	45	30	30	20	758	600	121.0

style FTFA

nominal bore		length installed mm			allowable movements from free length				pressure @ 80°C		weight per unit
inside mm	inches	free	min	max	axial mm comp	axial mm elong	lateral mm	angular deg	positive kPa	vacuum mm H.g.	kgs
32	1 1/4	152	115	167	50	27	45	40	1600	600	2.1
40	1 1/2	152	115	167	50	27	45	40	1600	600	2.4
50	2	152	115	167	50	27	45	40	1600	600	4.1
65	2 1/2	152	115	167	50	27	45	40	1600	600	5.9
80	3	229	216	243	50	30	45	40	1600	600	6.9
100	4	229	187	242	53	30	40	35	1600	600	9.2
125	5	229	187	242	53	30	40	35	1600	600	11.1
150	6	229	187	242	53	30	40	35	1600	600	13.4
200	8	229	183	246	59	30	35	30	1600	600	19.2
250	10	305	261	322	60	30	35	30	1600	600	29.1
300	12	305	261	322	60	30	35	30	1600	600	42.7
350	14	305	271	320	45	30	30	30	1034	600	59.1
400	16	305	271	320	45	30	30	20	860	600	77.0
450	18	305	271	320	45	30	30	20	860	600	80.0
500	20	305	271	320	45	30	30	20	860	600	82.0
600	24	305	271	320	45	30	30	20	758	600	120.0
700	28	305	271	320	45	30	30	20	689	600	134.0
750	30	305	271	320	45	30	30	20	689	600	145.0

**Style FTF Twin Sphere
Rubber Expansion Joints**



style FTFB

nominal bore		length installed mm			allowable movements from free length				pressure @ 80°C		weight per unit
inside mm	inside inches	free	min	max	axial mm comp	axial mm elong	lateral mm	angular deg	positive kPa	vacuum mm H.g.	kgs
25	1	254	216	269	50	30	45	40	1600	600	2.3
32	1 1/4	254	216	269	50	30	45	40	1600	600	2.8
40	1 1/2	254	216	269	50	30	45	40	1600	600	3.5
50	2	254	216	269	50	30	45	40	1600	600	4.6
65	2 1/2	254	216	269	50	30	45	40	1600	600	6.6
80	3	254	216	269	50	30	45	40	1600	600	7.2
100	4	254	216	271	50	35	40	35	1600	600	9.7
125	5	254	216	271	50	35	40	35	1600	600	11.6
150	6	254	216	271	50	35	40	35	1600	600	14.1
200	8	254	216	271	50	35	40	35	1600	600	19.9