

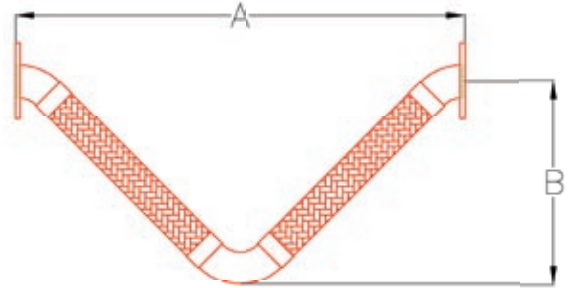
3.28 | Metallic Expansion Joint

Seismic Joints

Piping used in applications and locations subject to seismic conditions have their own set of unexpected random movements. The random motion common to earthquakes requires that seismic expansion joints to be capable of movement in any direction.

Significant cost and safety benefits found in PHF seismic expansion joints

- It is an inexpensive alternative to dual-tied bellows expansion joints and especially ball joints.
- During an earthquake, it protects equipment by allowing boilers, chillers, fan-coil units and other systems to move independently of the building.
- Installed at the connection, also prevents nozzles from cracking or shearing off.
- A break in the gas pipework could start a fire, which can of course be devastating. This Australian Gas Approval (AGA) - certified seismic expansion joint will compensate for the movement that occurs during any seismic activity such as an earthquake.
- It can also be designed with lined hose for high velocity, double-braid for high pressure applications. There are a wide range of end fittings and flanges available for assemblies.



V' Shape Seismic Joints

Table 2

SIZE	Part No.#	DIM 'A' (mm)	DIM 'B' (mm)	MWP (kPa)	MOVEMENT X, Y & Z (mm)
32mm (1 1/4")	PHFVL-SS1O32-50-	510	270	3500	50
38mm (1 1/2")	PHFVL-SS1O38-50-	580	310	3000	50
50mm (2")	PHFVL-SS1O50-50-	660	360	2500	50
65mm (2 1/2")	PHFVL-SS1O65-50-	735	410	2000	50
75mm (3")	PHFVL-SS1O75-50-	820	470	2000	50
100mm (4")	PHFVL-SS1O100-50-	955	565	1600	50
125mm (5")	PHFVL-SS1O125-50-	1085	655	1506	50
150mm (6")	PHFVL-SS1O150-50-	1235	755	1506	50
32mm (1 1/4")	PHFVL-SS1O32-75-	590	310	3500	75
38mm (1 1/2")	PHFVL-SS1O38-75-	665	350	3000	75
50mm (2")	PHFVL-SS1O50-75-	750	405	2500	75
65mm (2 1/2")	PHFVL-SS1O65-75-	840	465	2000	75
75mm (3")	PHFVL-SS1O75-75-	940	530	2000	75
100mm (4")	PHFVL-SS1O100-75-	1085	625	1600	75
125mm (5")	PHFVL-SS1O125-75-	1230	725	1506	75
150mm (6")	PHFVL-SS1O150-75-	1395	840	1506	75
32mm (1 1/4")	PHFVL-SS1O32-100-	655	340	3500	100
38mm (1 1/2")	PHFVL-SS1O38-100-	745	390	3000	100
50mm (2")	PHFVL-SS1O50-100-	835	450	2500	100
65mm (2 1/2")	PHFVL-SS1O65-100-	925	505	2000	100
75mm (3")	PHFVL-SS1O75-100-	1040	580	2000	100
100mm (4")	PHFVL-SS1O100-100-	1195	685	1600	100
125mm (5")	PHFVL-SS1O125-100-	1350	785	1506	100
150mm (6")	PHFVL-SS1O150-100-	1530	905	1506	100
32mm (1 1/4")	PHFVL-SS1O32-150-	760	395	3500	150
38mm (1 1/2")	PHFVL-SS1O38-150-	865	450	3000	150
50mm (2")	PHFVL-SS1O50-150-	970	515	2500	150
65mm (2 1/2")	PHFVL-SS1O65-150-	1075	580	2000	150
75mm (3")	PHFVL-SS1O75-150-	1200	660	2000	150
100mm (4")	PHFVL-SS1O100-150-	1380	775	1600	150
125mm (5")	PHFVL-SS1O125-150-	1555	890	1506	150
150mm (6")	PHFVL-SS1O150-150-	1755	1020	1506	150

Temp. (°C)	Corr. Factor
-200	1.0
-150	1.0
-100	1.0
-50	1.0
-0	1.0
20	1.0
50	0.95
100	0.83
150	0.75
200	0.69
250	0.65
300	0.61
350	0.58
400	0.56
450	0.54
500	0.53
550	0.52
600	0.34
650	0.19
700	0.10

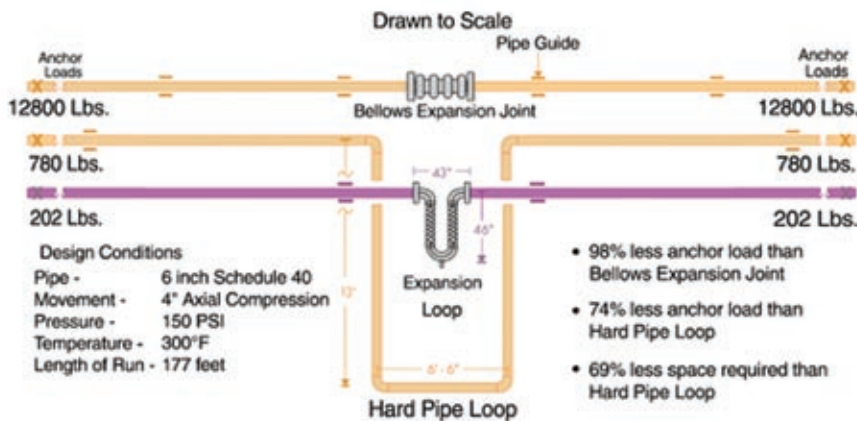
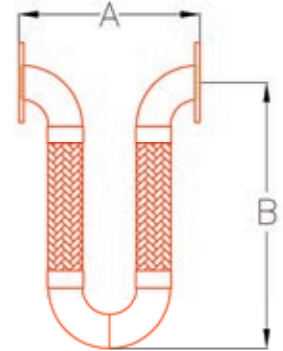
Note - Dimension 'A' and 'B' are approx dimensions only and are subject to change without notice.

3.29 | Metallic Expansion Joint

Expansion Loops

Made of flexible stainless steel hose and braid, it accommodates lateral offset and angular movement. Pipes transporting hot or chilled water, steam and chemicals are all subject to varying internal temperatures, as well as significant thermal expansion.

Compared to conventional bellows type expansion joints and hard pipe loops, expansion loops exerts a fraction of the anchor load, requires far fewer pipe guides, and can take up less space, all significantly reducing overall project costs.



There's no limit to the thermal applications that the expansion loop can handle. It can also be designed with lined hose for high velocity, double-braid for high pressure applications. There are a wide range of end fittings and flanges available for assemblies.

U' Shape Expansion Joints

Table 2

SIZE	Part No.#	DIM 'A' (mm)	DIM 'B' (mm)	MWP (kPa)	MVMT X, Y & Z (mm)
32mm (1 1/4")	PHFUL-SS1O32-50	230	385	3500	50
38mm (1 1/2")	PHFUL-SS1O38-50	260	445	3000	50
50mm (2")	PHFUL-SS1O50-50	315	525	2500	50
65mm (2 1/2")	PHFUL-SS1O65-50	390	600	2000	50
75mm (3")	PHFUL-SS1O75-50	470	690	2000	50
100mm (4")	PHFUL-SS1O100-50	620	835	1600	50
125mm (5")	PHFUL-SS1O125-50	775	980	1506	50
150mm (6")	PHFUL-SS1O150-50	925	1135	1506	50
32mm (1 1/4")	PHFUL-SS1O32-75	245	440	3500	75
38mm (1 1/2")	PHFUL-SS1O38-75	275	505	3000	75
50mm (2")	PHFUL-SS1O50-75	325	590	2500	75
65mm (2 1/2")	PHFUL-SS1O65-75	390	675	2000	75
75mm (3")	PHFUL-SS1O75-75	470	775	2000	75
100mm (4")	PHFUL-SS1O100-75	620	925	1600	75
125mm (5")	PHFUL-SS1O125-75	775	1080	1506	75
150mm (6")	PHFUL-SS1O150-75	925	1250	1506	75
32mm (1 1/4")	PHFUL-SS1O32-100	280	485	3500	100
38mm (1 1/2")	PHFUL-SS1O38-100	310	560	3000	100
50mm (2")	PHFUL-SS1O50-100	360	650	2500	100
65mm (2 1/2")	PHFUL-SS1O65-100	415	735	2000	100
75mm (3")	PHFUL-SS1O75-100	475	845	2000	100
100mm (4")	PHFUL-SS1O100-100	620	1005	1600	100
125mm (5")	PHFUL-SS1O125-100	775	1165	1506	100
150mm (6")	PHFUL-SS1O150-100	925	1345	1506	100
32mm (1 1/4")	PHFUL-SS1O32-150	330	560	3500	150
38mm (1 1/2")	PHFUL-SS1O38-150	360	645	3000	150
50mm (2")	PHFUL-SS1O50-150	410	745	2500	150
65mm (2 1/2")	PHFUL-SS1O65-150	465	840	2000	150
75mm (3")	PHFUL-SS1O75-150	525	960	2000	150
100mm (4")	PHFUL-SS1O100-150	620	1135	1600	150
125mm (5")	PHFUL-SS1O125-150	775	1310	1506	150
150mm (6")	PHFUL-SS1O150-150	925	1505	1506	150

Temp. (°C)	Corr. Factor
-200	1.0
-150	1.0
-100	1.0
-50	1.0
-0	1.0
20	1.0
50	0.95
100	0.83
150	0.75
200	0.69
250	0.65
300	0.61
350	0.58
400	0.56
450	0.54
500	0.53
550	0.52
600	0.34
650	0.19
700	0.10

Note - Dimension 'A' and 'B' are approx dimensions only and are subject to change without notice.