

Expansion Joints

EXPANSION JOINTS



Available Configurations

- PVC and CPVC
- EPDM and FPM O-Rings
- 6" and 12" Travel
- Flanged, Socket, Socket by Spigot

Expansion joint consists of two telescoping tubes designed with a triple O-ring system and is available in a variety of configurations.

Expansion joints are necessary when standard expansion loops are not practical or not desired.

Expansion joints allow for rigid mounting between two fixed points, with the inner tube expanding and contacting, like a piston against the anchored outer tube.

CAUTION: Do not test with air or air over water

Normally expansion joints are not necessary indoors unless the temperature of the air and/or liquid is going to vary. Outdoor installations need to consider expansion and contraction. The amount of expansion is based on the temperature differential between the minimum and maximum of the air and/or liquid.

Why Consider Expansion?

Thermoplastics have a high coefficient of thermal expansion. In many cases, this rate of expansion will be up to 10 times that of metals. Expansion and contraction need to be considered when designing and installing any plastic piping system.

When to use an expansion joint

Expansion joints are an effective means of designing for expansion or contraction and should be the preferred consideration when

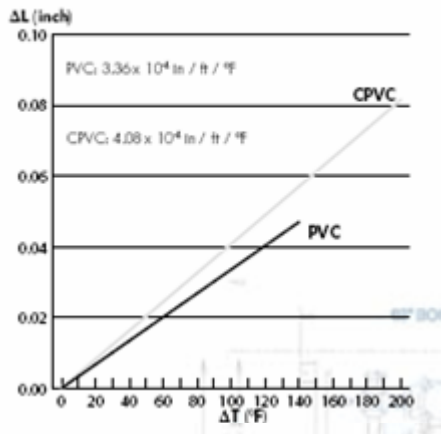
- The system has critical dimensions with no room for movement, i.e. manifold systems
- The system has significant space constraints, i.e. containment piping systems
- The system will experience frequent thermal cycling
- The system will be exposed to a temperature change beyond 30°F

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Linear Expansion Joint Technical Data

Thermal Expansion



Thermal Expansion	Metric: mm/(m°C)	Inch: in/(ft°F)
PVC	0.0504	0.000336
CPVC	0.0612	0.000408

Expansion Joint Pressure Ratings

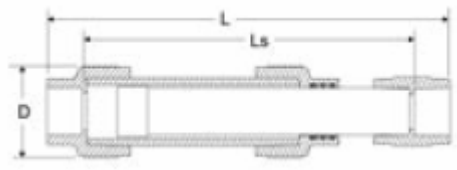
Temp	73°F	73°F	100°F	120°F	120°F	140°F	140°F	160°F	180°F
Material	PVC	CPVC	PVC	PVC	CPVC	PVC	CPVC	CPVC	CPVC
1/2"	340	340	260	170	275	95	215	170	110
3/4"	340	340	210	140	225	75	170	135	85
1"	320	320	200	130	205	70	160	125	80
1 1/4"	260	260	165	105	170	60	130	105	65
1 1/2"	240	240	150	100	150	55	120	95	60
2"	200	200	125	80	130	45	100	80	50
3"	190	190	120	75	125	42	95	75	50
4"	160	160	100	65	105	40	80	65	40
6"	130	130	100	55	90	30	70	50	36

Normally, expansion joints are not necessary indoors unless the temperature of the air and/or fluid are going to vary.

Outdoor installations will normally require compensation for thermal expansion. The estimated expansion is based on the range of anticipated temperature fluctuations from the surrounding air and fluid being conveyed.

Dimensional Data

Size	D in.	6" travel		12" travel	
		L in.	Ls in.	L in.	Ls in.
1/2"	2.00	11.00	9.10	17.00	15.10
3/4"	2.40	11.25	9.30	17.25	15.30
1"	2.60	12.00	9.70	18.00	15.70
1-1/4"	3.00	13.50	10.50	19.50	16.50
1-1/2"	3.50	14.00	11.50	20.00	17.50
2"	4.50	15.00	12.00	21.00	18.00
3"	5.00	16.50	12.70	22.50	18.70
4"	8.00	20.00	13.40	26.00	19.40
6"	10.00	30.00	22.50	36.00	28.50



Specification – Expansion Joints

All expansion joints shall be telescopic piston type, with a ____ (6" or 12") travel, utilizing a triple O-ring design, manufactured of ____ (PVC or CPVC) material with ____ (EPDM or FPM) O-rings as manufactured by George Fischer Sloane, Inc., Little Rock, Arkansas.

Materials: All materials shall meet the requirements of ASTM D-1784. In addition, all pipe shall be scheduled 80 and meet the requirements of ASTM D-1785 for PVC, and ASTM F-441 for CPVC fittings shall meet the requirements of ASTM D-2467 for PVC, Schedule 80, socket ASTM F-439 for CPVC Schedule 80 Socket ASTM F-1970 for all flanges (PVC or CPVC)

Product: Product shall be supplied with ____ (Socket, Spigot or Flanged) end connections, Product shall be shipped by the manufacturer as a fully assembled unit. All expansion joints shall be 100% tested in accordance with ASTM F-1970 prior to shipment. Field assembly is not allowed.