

INSTALLATION GUIDE

PVC DWV LRS-25 EXPANSION JOINT

For Type I and Type II Expansion Joints DL631, DL632, DL633 and DL634

Expansion/Contraction of PVC DWV Pipe

PVC pipe expands and contracts with changes in temperature. The amount of expansion or contraction depends on the length of pipe run, the material coefficient of linear expansion and the change in temperature of the pipe. This expansion/contraction often means expansion joints are required.

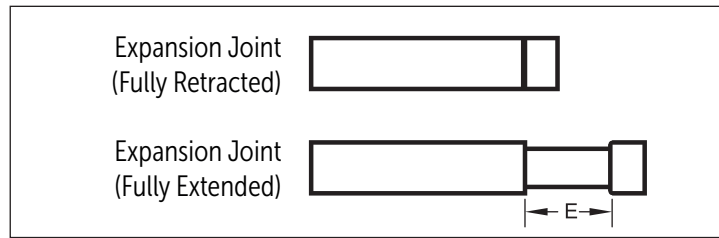
The coefficient of linear expansion for PVC DWV pipe is as follows:

Imperial: 3×10^{-5} in (expansion/contraction) / in (pipe length) / °F (change in temperature)

Metric: 5.4×10^{-5} mm (expansion/contraction) / mm (pipe length) / °C (change in temperature)

- The charts on the next page show the amount of expansion expected for (ΔT) and length.
- If the pipe is installed in an exposed location, 17°C (30°F) should be added to the amount of temperature change (ΔT) due to the effects of radiant heat.

GENERAL			
Part Number	Trade Size	Type (I or II)	Maximum Travel (E)
DL631	1½"	I	4.5"
DL632	2"	I	4.5"
DL633	3"	II	8.0"
DL634	4"	II	8.0"



Certifications



Installation

Westlake Pipe & Fittings PVC DWV Expansion Joints are for Vertical Installation Only.

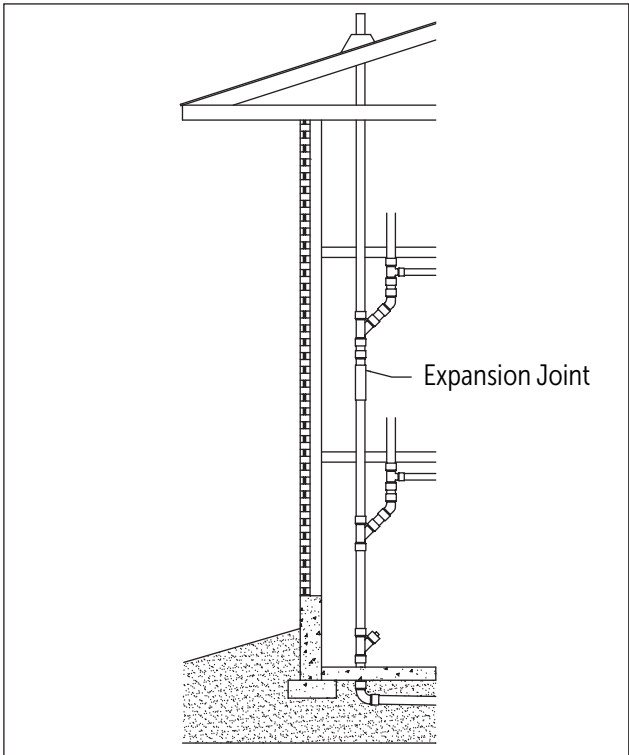
- Install Expansion Joint with Piston located in the up position
- Determine Piston Set Position

Use the following equations to determine expansion joint piston set position during installation:

Piston Setting (in) =
$$\frac{(\text{Max. Temp. (°F)} - \text{Install Temp. (°F)}) \times \text{Expansions Joint Max Travel (in)}}{\text{Total Expected Temp. Change (°F)}}$$

Piston Setting (mm) =
$$\frac{(\text{Max. Temp. (°C)} - \text{Install Temp. (°C)}) \times \text{Expansions Joint Max Travel (mm)}}{\text{Total Expected Temp. Change (°C)}}$$

- Start with expansion joint in the retracted position and set the position as shown to the left.



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EXPANSION/CONTRACTION OF PVC (IN)										
$\Delta T (^{\circ}F)$	Length of Pipe Run (ft)									
	5	10	15	20	25	30	35	40	45	50
5	0.01	0.02	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.09
10	0.02	0.04	0.05	0.07	0.09	0.11	0.13	0.14	0.16	0.18
15	0.03	0.05	0.08	0.11	0.14	0.16	0.19	0.22	0.24	0.27
20	0.04	0.07	0.11	0.14	0.18	0.22	0.25	0.29	0.32	0.36
25	0.05	0.09	0.14	0.18	0.23	0.27	0.32	0.36	0.41	0.45
30	0.05	0.11	0.16	0.22	0.27	0.32	0.38	0.43	0.49	0.54
35	0.06	0.13	0.19	0.25	0.32	0.38	0.44	0.50	0.57	0.63
40	0.07	0.14	0.22	0.29	0.36	0.43	0.50	0.58	0.65	0.72
45	0.08	0.16	0.24	0.32	0.41	0.49	0.57	0.65	0.73	0.81
50	0.09	0.18	0.27	0.36	0.45	0.54	0.63	0.72	0.81	0.90

EXPANSION/CONTRACTION OF PVC (MM)										
$\Delta T (^{\circ}C)$	Length of Pipe Run (m)									
	2	4	6	8	10	12	14	16	18	20
5	0.54	1.08	1.62	2.16	2.70	3.24	3.78	4.32	4.86	5.40
10	1.08	2.16	3.24	4.32	5.40	6.48	7.56	8.64	9.72	10.80
15	1.62	3.24	4.86	6.48	8.10	9.72	11.34	12.96	14.58	16.20
20	2.16	4.32	6.48	8.64	10.80	12.96	15.12	17.28	19.44	21.60
25	2.70	5.40	8.10	10.80	13.50	16.20	18.90	21.60	24.30	27.00
30	3.24	6.48	9.72	12.96	16.20	19.44	22.68	25.92	29.16	32.40
35	3.78	7.56	11.34	15.12	18.90	22.68	26.46	30.24	34.02	37.80
40	4.32	8.64	12.96	17.28	21.60	25.92	30.24	34.56	38.88	43.20
45	4.86	9.72	14.58	19.44	24.30	29.16	34.02	38.88	43.74	48.60
50	5.40	10.80	16.20	21.60	27.00	32.40	37.80	43.20	48.60	54.00