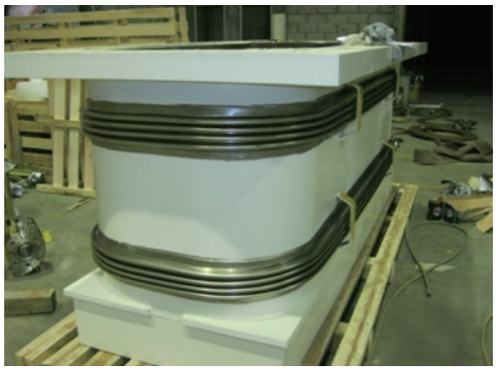
Rectangular Expansion Joints

Rectangular type expansion joints are mostly used in low pressure ducting systems including gas turbine exhaust systems, turbine/condenser connections, boiler breaching, flue gas ducts, regenerators, precipitators.

Kurbo also designs and manufactures a wide range of rectangular type metal expansion joints to compensate for axial, lateral and angular movements and any combination of these.

Rectangular and square type expansion joints are designed to suit each customer's individual requirements. Please contact one of our sales engineers for any assistance. These rectangular type joints are available with a large range of options including liners, covers, tie rods, hinges, internal packing, purge and drain points.



Rectangular double expansion joint with round corners

Design Standard

Bellows Type	Max. Working Pressure (bar)	No. of Convolution	Axial Movement (mm)	Overall Length(mm)				Spring Rate (kg/mm)
				L50	L65	L75	L100	
Miter & Round Corner	0.5	1	±20	200	230	250	300	0.032
		2	±40	320	350	370	420	0.016
		3	±60	440	470	490	540	0.011
Camera Corner	0.5	2	±20	200	230	250	300	0.011
		3	±30	250	280	300	350	0.008
		4	±40	400	430	450	500	0.006

Rectangular joint with single miter "V" profile

Kurbo's inspector performing hydrostatic test

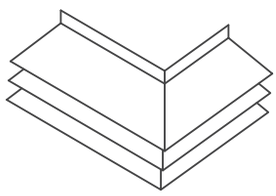
Corner Configuration and Convolution Profile

Rectangular type expansion joints are available in four different corner configurations and two convolution profiles. The application and operating conditions will dictate the correct choice of convolution shape and corner configuration. Typical convolution geometry and corner construction details are shown below.

Corner Configuration

Single Miter Corner

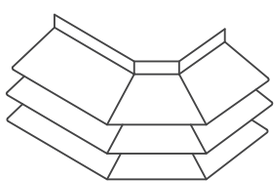
This is the most common and economical type used to compensate for thermal expansion, and can readily be bolted or welded into the connecting duct work. These are preferred in low cycle and vibration free applications.



Single Miter Corner

Double Miter Corner

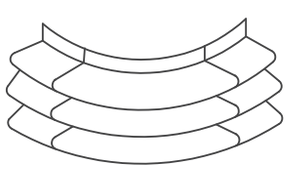
This type is slightly more expensive to manufacture than the single miter design. However, they do provide a greater cycle life under the same set of operating conditions.



Double Miter Corner

Rounded Corner

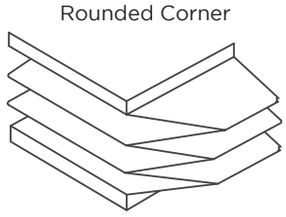
This type is used in applications where vibration and cycle life are important factors. Rounded corners are the most costly to manufacture though, it has advantage of lowering corner stress.



Rounded Corner

Camera Corner

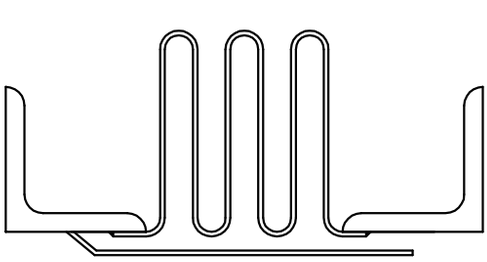
This type is used mainly on low pressure applications. They have good cycle life characteristics and are less costly than the double miter corner design. Camera corners have disadvantage of reduction in movement because convolutions are overlapped at the corner. Kurbo does not recommend this type of joint.



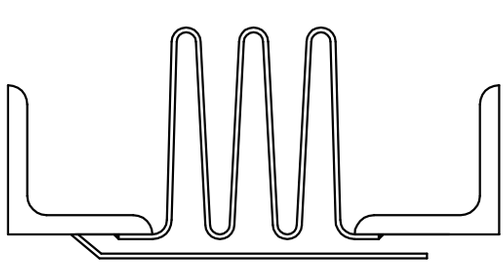
Camera Corner

Convolution Profile

There are two types of convolution: V-shaped and U-shaped. "V' profile is used for low pressure applications and "U" profile is preferred for higher pressure applications up to 2bars. The "V" convolution profile will be supplied with single miter corners, unless otherwise specified. Round corner bellows will always be constructed using the "U" convolution profile.



“U” Profile



“V” Profile