

Constant Spring Hangers and Supports

Overview

Constant springs are used to support piping whose movements and/or loading conditions cause too great a variability or too high of a loading condition for a variable spring. A perfect constant support will exert the same lifting effort as the pipe moves either up or down.

The geometric design of the constant support ensures a constant amount of force exerted throughout the entire range of travel. The force is made constant by a counterbalancing spring assembly. This counterbalancing spring assembly is made up of a spring coil(s) and a set of levers.

As the levers move from the higher to the lower position, or vice versa, a turning moment about the main pivot is created that is both equal and opposite to the turning moment of the load and the load moment arms. As the lever moves from the higher to the lower position, the load spring is compressed and the ensuing increased force causes the turning moment to be created. It is the opposite for the lever moving from the lower to the higher position.

RCS-80V Vertical Constant Chart

Drawing	Rilco Type	Grinnell Equivalent	Description
	A	A	The Rilco RCS-80V "Type A" is specially fabricated for mounting on a supporting member by means of attaching a rod into the tapped hole in the constant support's top cap.
	B	B	The Rilco RCS-80V "Type B" is manufactured with one lug to accommodate attachment to building structure and allow for the use of various types of attachments.
	C	C	The Rilco RCS-80V "Type C" is manufactured using two (2) lugs to accommodate attachment to the building structure and allowing for the use of various types of attachments.
	D	D	The Rilco RCS-80V "Type D" is designed to lay on top of the beams or structural steel rather than attaching to the structures like the other "Constant Supports".
	E	E	The Rilco RCS-80V "Type E" is the same as the RCS-80V "Type D" except that "Type E" is designed with two (2) brackets that comprise its frame thereby allowing it to rest on the top flange of

			the structural member.
	G	G	<p>The RCS-80V "Type G" is manufactured using opposing constants and a pair of channels welded back-to-back, to form a trapeze assembly.</p> <p>This Rilco system is designed for use when a pipe is not to be centered on the constant support so that one spring of the trapeze carries a heavier load than the other.</p>

RCS-81H Horizontal Constant Chart

Drawing	Rilco Type	Grinnell Equivalent	Description
	A	A	The Rilco RCS-81H "Type A" is specially designed for mounting on a supporting member by means of attaching two rods into the tapped holes in the constant support's top cap.
	B	B	The Rilco RCS-81H "Type B" is manufactured with two lugs to accommodate attachment to the building structure and allowing for the use of various types of attachments.
	C	C	The Rilco RCS-81H "Type C" is manufactured using two (2) lugs to accommodate attachment to the building structure and allowing for the use of various types of attachments.
	D	D	The Rilco RCS-81H "Type D" is designed to be attached directly under that steel support member.
	E	E	The Rilco RCS-81H "Type E" is similar to the RCS-81H "Type D" except that "Type E" is designed with two (2) brackets welded to the support casing forming a frame which allows the unit to be attached to the top of

			the structural support.
	F	F	The Rilco RCS-81H "Type F Upthrust" is specifically designed to support pipes or equipment from below and is supplied with a base to anchor it to the floor.