



## V Connector Installation Instructions

The following documents, the "Installation Instructions" and "Design Considerations" are to be used in conjunction with the Submittal Drawings for flexible "V" connectors.

The Twin City Hose, Inc. "V" connectors has a shipping bar, which maintains its neutral installation length. To take advantage of its full movement in compression or extension, the shipping bar must be removed and the "V" connectors recompressed or extended during installation. For example, by extending the 6" "V" connectors 2" during installation, the assembly can now be compressed 5" instead of 3" standard.

The Twin City Hose, Inc. "V" connectors is flexible, and this can easily be done in the field, but extreme care must be taken to cross tighten the bolts frequently so not to pull the assembly past it's designed limits.

On "V" connectors installed hanging down in a Horizontal Run, the "V" connectors should hang perfectly straight down, and the end fittings in the horizontal Run are required to be in exact line with the adjoining pipe. The adjoining pipeline connecting to the "V" connectors must be appropriately guided and anchored to ensure that all motion being transferred to the "V" connectors is in a straight, direct line, creating axial motion only on the "V" connectors.

On "V" connectors installed straight up in a Horizontal Run, the "V" connectors should be supported perfectly straight up, preventing the "V" connectors from leaning outside of a straight plain, and the end fittings in the Horizontal Run are required to be in exact line with the adjoining pipe. Pipe hanger rod used to support the "V" connectors should be loose enough to allow the 90 elbow at the top to move up or down  $\frac{1}{4}$ " as the loop flexes. The adjoining pipeline connecting to the "V" connectors must be appropriately guided and anchored to ensure that all motion being transferred to the "V" connectors is in a straight, direct line, creating axial motion only on the "V" connectors.

On "V" connectors installed Horizontally in a Horizontal Run, the "V" connectors should be supported totally, preventing the "V" connectors from drooping down outside of a straight plain, which could create a torquing motion. Also, the end fittings in the Horizontal Run are required to be in exact line with the adjoining pipe. Pipe hanger rod used to support the "V" connectors should be a least 1 foot in length to allow the 90 elbow to move horizontally back and forth  $\frac{1}{4}$ " as the loop flexes. The adjoining pipeline connecting to the "V" connectors must be appropriately guided and anchored to ensure that all motion being transferred to the "V" connectors is in a straight, direct line, creating axial motion only on the "V" connectors.

On "V" connectors installed Horizontally in a Vertical Run, the "V" connectors should be supported, preventing the "V" connectors from drooping down or outside of a straight plain which could create a torquing motion. Also, the end fittings in the Horizontal Run are required to be in exact line with the adjoining pipe. Pipe hanger rod used to support the "V" connectors should be at least 1 foot in length to allow the 90 elbow to move horizontally back and forth  $\frac{1}{4}$ " as the loop flexes. The adjoining pipeline connecting to the "V" connectors must be appropriately guided and anchored to ensure that all motion being transferred to the "V" connectors is in a straight, direct line, creating axial motion only on the "V" connectors.