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## Standard Specification

(20192LVloop.docx)

### RECOMMENDED ENGINEERING SPECIFICATION FOR 2-LEG V STYLE LOOP

#### PART 1 GENERAL

##### 1.01 SECTION INCLUDES

- A. Two-leg V style flexible loop, model FLTLV (+/-6") thermal axial or (+/-4") seismic, which provides a flexible pipe loop that will absorb and compensate thermal movement or seismic movement.
  - Models FLTLVM (male NPT ends)
  - Models FLTLVF (150# plate steel flanges)
  - Models FLTLVG (groove pipe ends)
  - Models FLTLVW (beveled weld ends)
  - Models FLTLVS (copper female sweat end)

##### 1.02 MANUFACTURES

- A. Two-leg V style flexible loop shall be manufactured by Flex Hose Co. or pre-approved equal.

#### PART 2 PRODUCTS

##### 2.01 2-Leg V style flexible loop

- A. Construction to be 2 equal length sections of annular corrugated 321 / 304L stainless steel (bronze for models FLTLVS) close-pitch hose (made in USA) with stainless steel (or bronze for models FLTLVS) over-braid (made in USA) that will absorb or compensate for pipe movements in the X plane thermally or X, Y, and Z planes when used in seismic applications.
- B. The corrugated metal hose, braid(s), and a stainless steel ring-ferrule/band (material gauge not less than .048") must be integrally seal welded using a 100% circumferential, full penetration TIG welds. End fittings shall be selected per application. Fittings must be attached using a 100% circumferential TIG weld.
- C. Braided stainless steel flexible loops must be suitable for operating temperatures up to 850 degrees F (455 degrees C). Braided bronze flexible loops must be suitable for operating temperatures up to 400 degrees F (204 degrees C)
- D. Flexible loops must be designed for pressure testing to 1.5 times their maximum rated working pressure and a minimum 4:1 (burst to working) safety factor.
- E. Each braided flexible hose loop shall be individually leak tested by the manufacturer using air-under-water, helium vacuum and/or hydrostatic pressure.
- F. Flexible hose loops shall be prepared for shipment using a cut-to-length metal shipping bar, tacked securely between the elbows of the two parallel legs, to maintain the manufactured length during shipping. Shipping bar must be removed prior to system start-up.
- G. The Flex-Hose Co. hanger assembly kit shall be used to support and hang the flexible hose loop. The UL Listed Seismic Wire/Cable assemblies conform to the requirements of the ASCE (American Society of Civil Engineers) guidelines for structural applications of wire rope, in that the cable is pre-stretched and the permanent end fittings maintain the break strength of the cable with a safety factor of two.
- H. The pre-manufactured flexible loop shall be installed and guided following the manufacturer's published installation instructions Two-leg V style manufactured loops that require pipe alignment guides (in thermal applications) shall use "Spider" type with outer housing ring affixed to building structure with rigid elements. Units shall be fabricated from carbon steel. Pipe hangers and/or roller supports shall not be considered acceptable for use as guides.

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- I. When used for potable water (in copper tubing systems) the model FLTLVS shall be third party tested and, listed (by a laboratory in compliance with all applicable requirements of ISO/IEC 17025) and marked in accordance with NSF/ANSI 61-2011. *SPECIAL NOTE: Drinking water supplies that are less than pH 6.5 may require corrosion control to limit leaching of copper into the drinking water.*
- J. When used for potable water (in copper tubing systems) the model FLTLVS shall be third party tested and, listed (by a laboratory in compliance with all applicable requirements of ISO/IEC 17025) and marked in accordance with Section 1417(d) of the Safe Drinking Water Act. Must meet the lead content requirements of Section 116875 of the California Health & Safety Code, and the criteria of NSF/ANSI 372 for low lead.
- K. When used for potable water (in steel piping systems) the models FLTLVF, FLTLVM and FLTLVW shall be third party tested and, listed (by a laboratory in compliance with all applicable requirements of ISO/IEC 17025) and marked in accordance with NSF/ANSI 61-2011
- L. When used for potable water (in steel piping systems) the models FLTLVF, FLTLVM and FLTLVG shall be third party tested and, listed (by a laboratory in compliance with all applicable requirements of ISO/IEC 17025) and marked in accordance with Section 1417(d) of the Safe Drinking Water Act. Must meet the lead content requirements of Section 116875 of the California Health & Safety Code, and the criteria of NSF/ANSI 372 for low lead.
- M. When used for potable water (in stainless steel piping systems) the models FLTLVSSF6, FLTLVSSM6 and FLTLVSSG6 shall be third party tested and, listed (by a laboratory in compliance with all applicable requirements of ISO/IEC 17025) and marked in accordance with NSF/ANSI 61-2011
- N. When used for potable water (in stainless steel piping systems) the models FLTLVSSF6, FLTLVSSM6 and FLTLVSSG6 shall be third party tested and, listed (by a laboratory in compliance with all applicable requirements of ISO/IEC 17025) and marked in accordance with Section 1417(d) of the Safe Drinking Water Act. Must meet the lead content requirements of Section 116875 of the California Health & Safety Code, and the criteria of NSF/ANSI 372 for low lead.

### 2.02 WARRANTY

Two-leg flexible V style loop must have a 2-year full product replacement warranty when installed in accordance with all specifications and installation instructions as described in the Two-Leg V / U style flexible loop Installation and Maintenance Instructions.

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