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Standard Specification

(TriLoop 202301.docx)

RECOMMENDED ENGINEERING SPECIFICATION FOR *TRI-LOOP®

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tri-Loop, model TRYL2 (+/-2") axial or TRYL4 (+/-4" axial), which provides a flexible pipe loop that will absorb and compensate multi-plane movements (X, Y, and Z), plus rotation about those axes simultaneously as well as reduce piping stress.
- Models TRYL2/4SMN (male NPT ends)
 - Models TRYL2/4SMP (150# plate steel flanges)
 - Models TRYL2/4SVG (groove pipe ends)
 - Models TRYL2/4SWN (beveled weld ends)
 - Models TRYL2/4BSW (copper female sweat end)
 - Models TRYL2/4BHM (copper male NPT ends)
 - Models TRYL2/4BPP (copper female press fit ends)

1.02 MANUFACTURES

- A. Tri-Loop shall be manufactured by Flex Hose Co., FHC-International, or pre-approved equal.

PART 2 PRODUCTS

2.01 TRI- LOOP

- A. Construction to be 3 equal length sections of annular corrugated 321 / 304L stainless steel (bronze for models TRYLBBSW, TRYLBHM and TRYLBPP) close-pitch hose (made in USA) with stainless steel (or bronze for models TRYLBBSW, TRYLBHM and TRYLBPP) over-braid (made in USA) that will absorb or compensate for pipe movements in all 6 degrees of freedom (3 coordinate axes, plus rotation about those axes) simultaneously.
- 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. When service is compressed or combustible gases and ID size is 1" - 4" pre-manufactured flexible loops shall have UL536 listing for compressed and combustible gases, such as: liquefied petroleum gases, and manufactured and natural fuel gases, at pressures not exceeding 175 PSI at ambient temperature.
- D. Braided stainless steel Tri-Loops must be suitable for operating temperatures up to 850 degrees F (455 degrees C). Braided bronze Tri-Loops must be suitable for operating temperatures up to 400 degrees F (204 degrees C)
- E. Tri-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.
- F. Each braided Tri-Loop shall be individually leak tested by the manufacturer using air-under-water and/or hydrostatic pressure.
- G. Tri-Loops shall be prepared for shipment using a cut-to-length metal shipping bar, tacked securely between the elbows of the two parallel legs, and from the elbow on the parallel legs to the end fitting on the non-parallel leg to maintain the manufactured length during shipping. Shipping bar must be removed prior to system start-up.
- H. The Flex-Hose Co. Tri-Flex hanger assembly kit shall be used to support and hang the Tri-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.

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- I. The pre-manufactured flexible loop shall be installed and guided following the manufacturer's published installation instructions.
The Flex-Hose Co. Tri-Loop requires no pipe guides.
Manufactured loops that require pipe alignment guides 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.
- J. The pre-manufactured flexible loop shall meet the requirements of the 2018 International Building Code (IBC) and the American Society of Civil Engineers code requirements for Total Maximum Displacement and accidental torsion as directed in IBC Chapter 16 and ASCE 7-16, Chapter 13.
- K. When used for potable water (in copper tubing systems) the models TRYLBWS and TRYLBPP 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 61-2016. *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.*
- L. When used for potable water (in copper tubing systems) the model TRYLBWS 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 372-2016 for low lead.
- M. When used for potable water (in steel piping systems) the models TRYLSMP, TRYLSMN and TRYLSVG 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 61-2016
- N. When used for potable water (in steel piping systems) the models TRYLSMP, TRYLSMN and TRYLSVG 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 372-2016 for low lead.
- O. When used for potable water (in stainless steel piping systems) the models TRYLSSMP6, TRYLSSMN6 and TRYLSSVG6 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 61-2016
- P. When used for potable water (in stainless steel piping systems) the models TRYLSSMP6, TRYLSSMN6 and TRYLSSVG6 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 372-2016 for low lead.

2.02 WARRANTY

Tri-Loops must have a 5-year full replacement warranty when installed in accordance with all specifications and installation instructions as described in the Flex-Hose Tri-Loop Installation and Maintenance Instructions.

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