

ML LOOP EXPANSION JOINT THERMAL APPLICATION

OPERATION, INSTALLATION AND MAINTENANCE INSTRUCTIONS

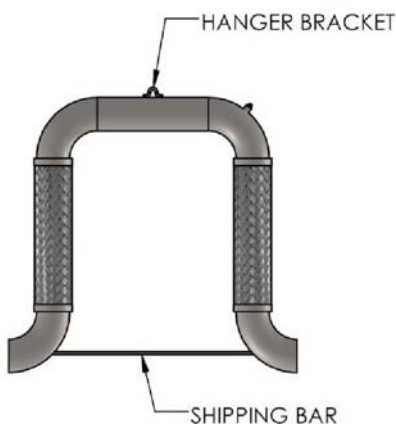
General: The ML Loop consists of two parallel sections of corrugated hose and braid with connecting fittings as specified for project requirements. The ML Loop can accommodate axial and lateral movement.

Application / Notes:

1. The ML Loop is used in a wide range of services from cryogenic to steam and applications such as compensation for thermal expansion and contraction, seismic movement, and building settlement.
2. ML Loops will be shipped with a tag that specifies it's rated movement. Confirm that the system movements are within the rating of the ML Loop.
3. Verify that the system pressures do not exceed the published at ratings of the ML Loop found on www.Flexicraft.com
4. ML Loops can be installed at any point of the pipe run between anchors.
5. The general Flexicraft recommendation is that a guide be used on each side of the ML Loop if any of the hanger rods deflect 4° or more due to the pipe movement.

Installation:

1. Inspect joint for shipping damage, insure that the shipping bar is intact.
2. During installation, make sure that the sections of flexible hose and braid are protected from damage and overextension. Weld splatter must be kept away from the flexible legs.
3. Nesting Clearance. Often several ML Loops are nested inside of each other, when this is the case the installer should verify that there is enough clearance between the ML Loops after insulation to allow for the full expected movement. Refer to the submittal for the nest.
4. When required, ML Loops should be insulated with flexible unicellular, mineral wool or fiberglass insulation. Ridged insulations should be avoided on the hose element to avoid point loading the hose. Insulation should be selected and installed to avoid moisture entrapment.
5. For Copper sweat applications, cold strap the fitting that is being soldered or brazed. Thoroughly flush flux from the inside of the system, clean off any flux from the outside of the hose.
6. ML Loops are shipped with shipping bars to maintain the Loops neutral position. Shipping bars must be removed after installation

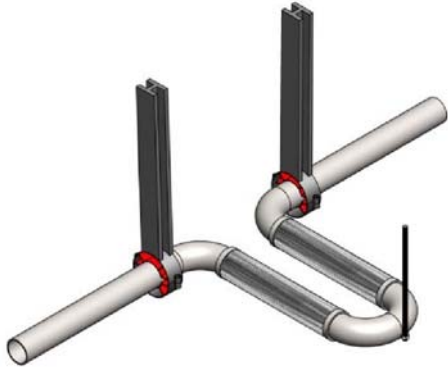


7. The 180° return fitting must be supported in a way that allows lateral movement. Nested loops may have two hanger brackets on the 180° return. 2.5" Diameter and smaller stock loops +4" Movement are self-supporting and do not need any additional support.

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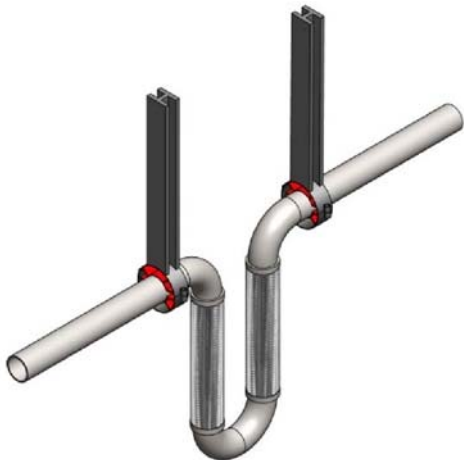
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Installation Continued:



Provided a hanger for loops 3" diameter and larger. The hanger rod must allow the 180° return fitting to move horizontally.

Horizontal is the recommended installation for STEAM applications. Consult factory for steam applications.



For horizontal pipe runs with the ML Loop hanging down, no additional support for the 180° return fitting is required.



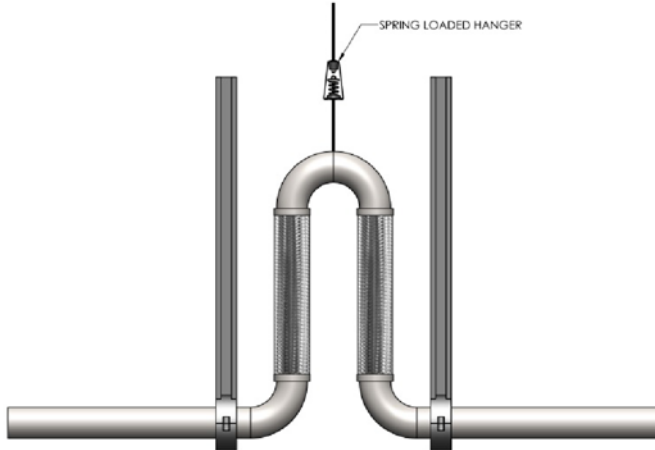
Provided a hanger for loops 3" diameter and larger.

The hanger rod or support must be spring loaded to allow the 180° to move up and down.

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Installation Continued:



Provided a hanger for loops 3" diameter and larger.

The hanger rod or support must be spring loaded to allow the 180° to move up and down.

Testing:

1. See Flexicraft's published data for allowable test pressure.
2. Flexicraft recommends hydrostatic test only. If an air test is performed, appropriate safety precautions must be made.

Steam Precautions:

1. For steam applications Flexicraft recommends the use of double braiding for the hose.
2. Flexicraft recommends that flexible hose products be only installed in well trapped systems.

Maintenance:

The ML Loop is maintenance free and has no serviceable parts. Periodic visual inspections should be done. Inspections should be made after any seismic event.

Contact Flexicraft with any questions.