



Corrugated Hose
Installation, Operation, and
Maintenance Instructions
Manual

INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS

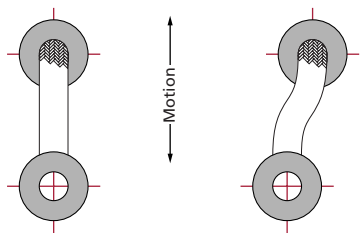
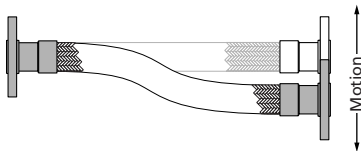
Corrugated hose are engineered to provide maximum service life when properly installed. Improper installation, incorrect flexing or careless handling in an application will reduce the effective service life of the hose and cause premature failure of an assembly. The following installation and handling precautions should be observed to achieve optimum performance from your corrugated hose assemblies.

Avoid torque.

Do not twist the hose assembly during installation when aligning the bolt holes in a flange or in making up pipe threads. The utilization of lap joint flanges or pipe unions will minimize this condition. It is recommended that two wrenches be used in making the union connection; one to prevent the hose from twisting and the other to tighten the coupling.

In plane lateral offset installation.

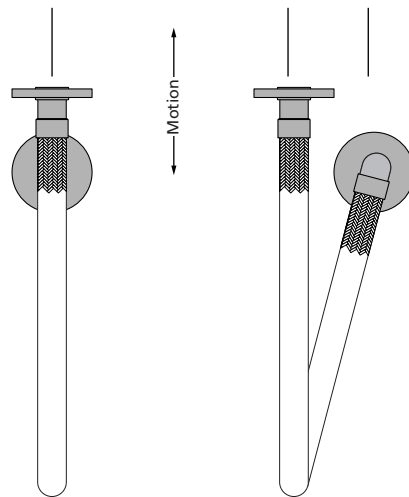
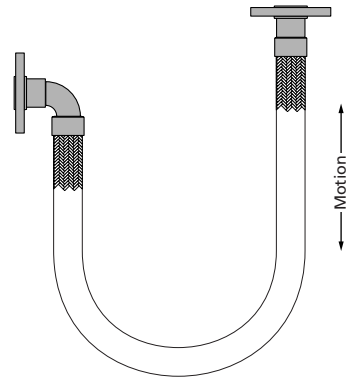
Prevent out-of-plane flexing in an installation. Always install the hose so that the flexing takes place in only one plane. This plane must be the plane in which the bending occurs.



Correct
in plane
flexing

Wrong
out of plane
flexing

In plane traveling loop installation.



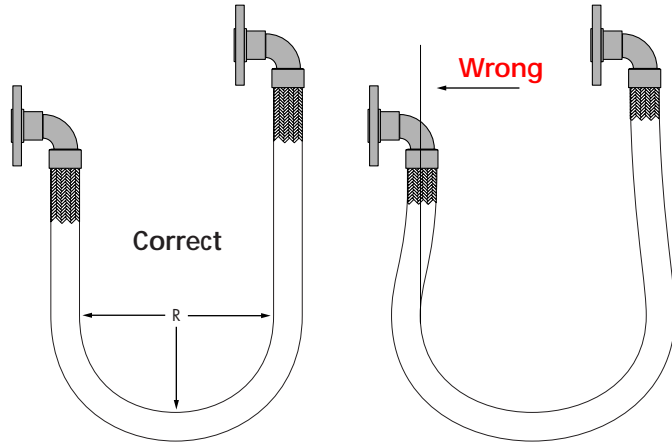
Correct
in plane
flexing

Wrong
out of plane
flexing

INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS (continued)

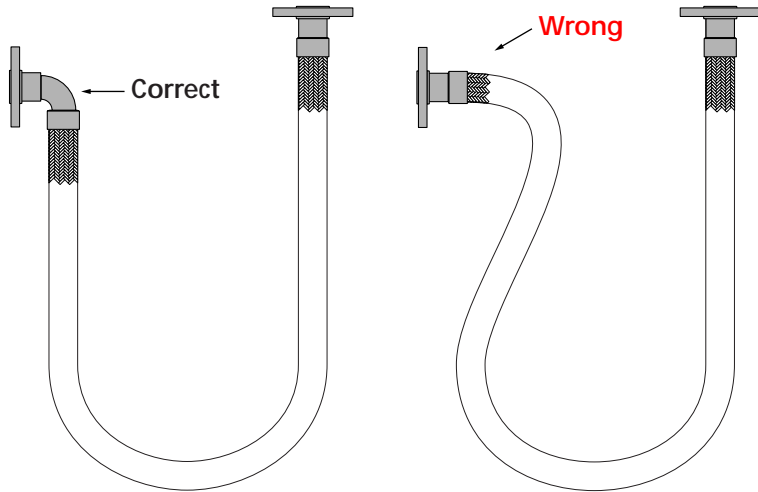
Avoid over bending.

The repetitive bending of a hose to a radius smaller than the radius listed in the specification tables for corrugated hose will result in premature hose failure. Always provide sufficient length to prevent over bending and to eliminate strain on the hose.



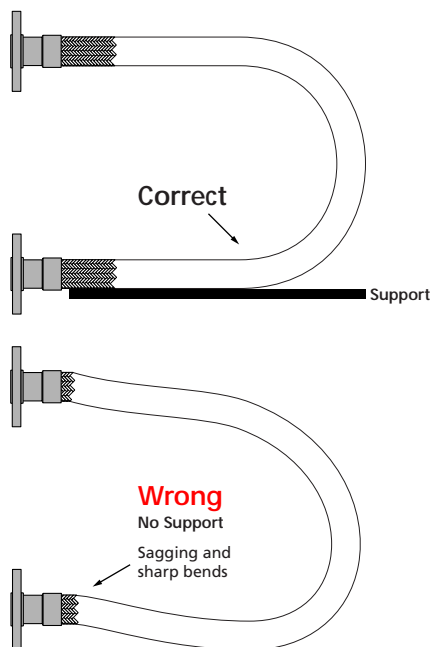
Avoid sharp bends.

Utilize sound geometric configurations that avoid sharp bends, especially near the end fittings of the assembly.



Provide support.

When installing the assembly in a horizontal loop, provide support for the arms to prevent the hose from sagging.

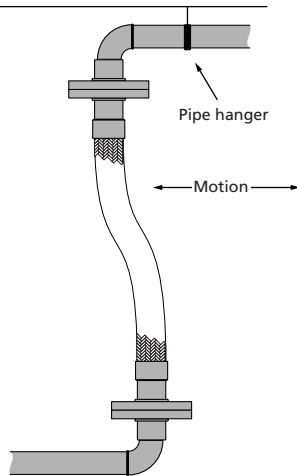


Do not extend or compress axially.

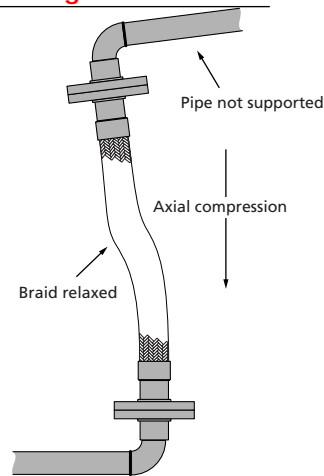
A piping system which utilizes metal hose to absorb movement must be properly anchored and/or guided.

Always support the piping to prevent excessive weight from compressing the hose and relaxing the braid tension.

Correct



Wrong



Handle with care.

Avoid careless handling of the hose assembly. Always lift or carry metal hose to prevent abrasion damage particularly to braided corrugated hose. Store metal hose assemblies away from areas where it can be subjected to spillage, corrosive fumes or sprays, weld splatter, etc. If hose braided is damaged the hose must be removed from service and tested at 1.5 times its max operating pressure.

Do not overpressurize or expose to high temperature.

The system that the hose assembly is to be installed into shall be protected from overpressurization and from excessive temperature. If hose is exposed to either overpressurization or excessive temperatures it shall be removed from service and tested at 1.5 times its max operating pressure.

Do...

- follow any printed instructions included with the flexible connector.
- follow industry-recommended practices and use care in handling and installing flexible connector.
- install flexible connectors so that the bend is as close to the center of the connector as possible.
- observe the minimum bend radius as specified by the connector manufacturer.
- trial-fit threaded connections by hand, unmake and then make permanent.
- use a flexible connector of proper length to suit the installation.
- only wrench on the fitting hex flats as provided.
- install vents and draws to permit the hose to be removed.
- install the proper length connector to allow a 2" straight run of hose at each end fitting.
- use pipe wrenches on both mating hexes to avoid twisting the hose.
- visually inspect hose on a regular basis.
- test hose at 1.5 times its maximum operating pressure annually.
- check for leaks before covering the installation.
- install in such a manner that the connector can be removed.
- make sure the pressure rating of connector is not exceeded.

Don't...

- apply a wrench to a hose, collar or assembly.
- twist hose assemblies during installation or when aligning the bolt holes in a flange or when making up pipe threads.
- "pre-flex" a flexible connector to limber it up. Over-bending could cause damage and result in leakage.
- over-bend a flexible connector. A 45°-90° bend should be sufficient to install any flexible connector.
- install a flexible connector with the bend next to the end fittings. This could cause damage and result in leakage.
- lay the flexible connector on rocks or objects which could puncture the hose and cause leakage.
- attempt to stretch or compress a flexible connector to fit an installation.
- restrict flexibility by allowing connector to come into contact with other components or equipment during installation.

INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS (continued)

Temperature Adjustment Factors

In general, the strength and therefore the pressure rating of metal hose decreases as the temperature increases. Thus, as the operating temperature of a metal hose assembly increases, the maximum allowable working pressure of the assembly decreases. The pressure ratings shown in the specifications charts for corrugated and interlocked hose are valid at 70°F. Elevated service temperatures will decrease these pressure ratings by the factors shown in the following chart. What also must be considered is the maximum working temperature of the end fittings, of the hose and their method of attachment.

For example:

To calculate the maximum working pressure for 3/4" ID single braided stainless steel corrugated hose at 800°F.

From the corrugated metal hose specification table, the maximum working pressure at 70°F is 775 PSIG. Multiply 775 PSIG by 0.66. The maximum working pressure at 800°F is 511 PSIG.

Temperature Degrees F	Stainless Steel	Carbon Steel	Monel	Bronze
70	1.00	1.00	1.00	1.00
150	.97	.99	.93	.92
200	.94	.97	.90	.89
250	.92	.96	.87	.86
300	.88	.93	.83	.83
350	.86	.91	.82	.81
400	.83	.87	.79	.78
450	.81	.86	.77	.75
500	.78	.81	.73	
600	.74	.74	.72	
700	.70	.66	.71	
800	.66	.52	.70	
900	.62			
1000	.60			
1100	.58			
1200	.55			
1300	.50			
1400	.44			
1500	.40			