



SCHÖNN
Medizintechnik GmbH

SEISMIC EXPANSION JOINT SPECIAL TO EXTERNAL BUILDING DILATATION



SEISMIC EXPANSION JOINT

SEISMIC TRE-UFLEX HOSES

Seismic Tre-UFlex hoses are the flexible bronze braided hoses and can be used widely in systems gas with their resistance to pressure and flexible structure. They are utilized for conducting gas, compensating the problems originated from installation, absorbing vibrations and expansions. With their variety of fitting options produced for almost every type of connections, they can be used as a ready-to-install assembly part in every connection point.

The Tre-UFlex Hose's design is the only flexible pipe loop that absorbs and compensates pipe movement in six degrees of freedom. (three coordinates axes, plus rotation about those axes simultaneously.)

The multiplane movement design can reduce expansion devices required in a piping system by up to 50%. It is the safest and most reliable means of absorbing movement resulting from thermal changes and random seismic shifts in a piping system.

Simplifies Piping Design

The Tre-UFlex Hoses do not impose pressure thrust on the piping system. The braid is designed to take the stress of pressurization containing the core, reducing anchor loads by 93% compared to mechanical pipe loops and 98% less than expansion joints. Tre-UFlex Hoses also eliminate pipe guides required by traditional pipe designs such as mechanical pipe loops or expansion joints.

Compact Design increases useable space and reduces system cost

The Tre-UFlex Hoses use 64% less space than a mechanical pipe loop, and eliminates six welds. Fewer fittings and welds can be achieved in the piping system by positioning the U-Flex Hoses at directional changes and rotating one of the U-Flex elbows during manufacturing to incorporate directional change, eliminating 90° elbows in the field. It can also be designed to incorporate elevation changes in the piping system, saving space, fewer fittings and welds.

Standards

Our Seismic Flexible Hoses compatible with ASCE 7-02 Minimum Design Loads for Buildings and Other Structures Section 9-6 Earthquake Loads, Table 9.6.1.7 Seismic



"U" Design

Variety of sizes & end fitting combinations

Nested configurations

Maximum vibration absorption

Benefits:

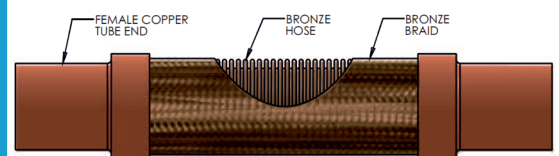
Compensates for offset, lateral and axial motion

Saves space

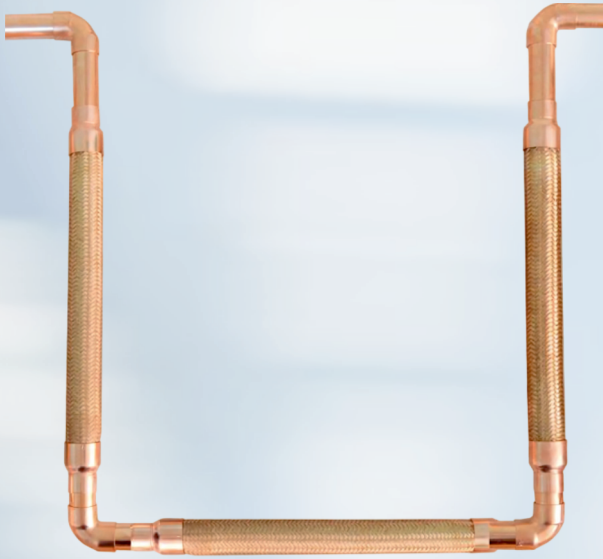
Meets most installation requirements

Simplifies protection of multi-pipe runs

Seismic protection of equipment & piping



SEISMIC EXPANSION JOINT



MOVEMENT

The Tre-UFlex Hoses are generally used in four types of applications:

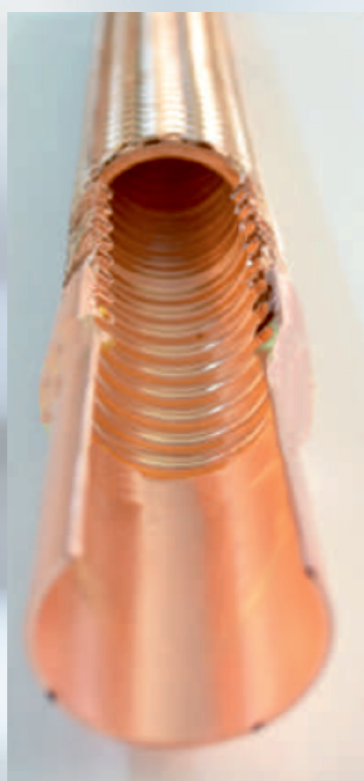
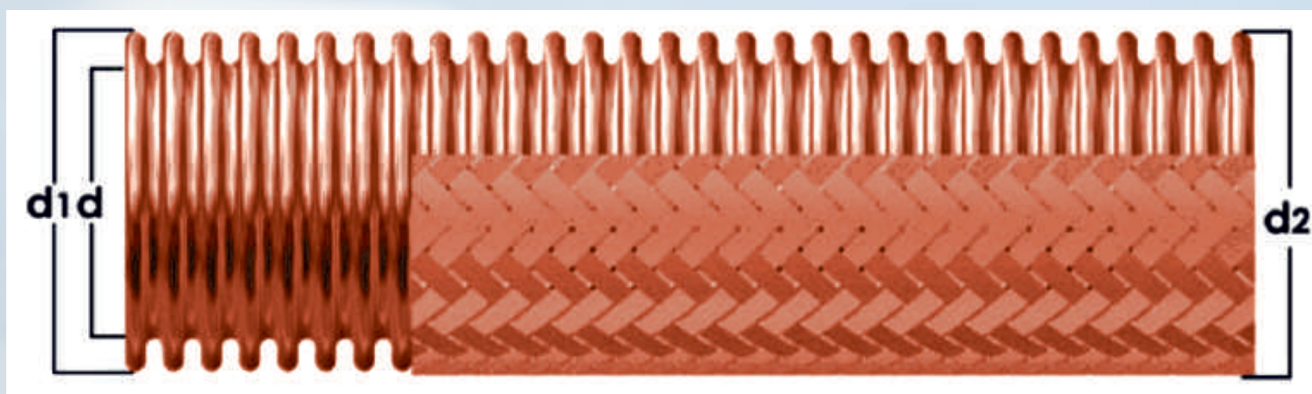
- To correct problems of misalignment
- To provide flexibility in manual handling operations
- To compensate for intermittent or constant movement
- To absorb vibration

In all of these types, careful hose selection, design of the assembly, and installation are important for optimal service life. The flexibility of a hose is determined by its mechanical design and the inherent flexibility of its material.

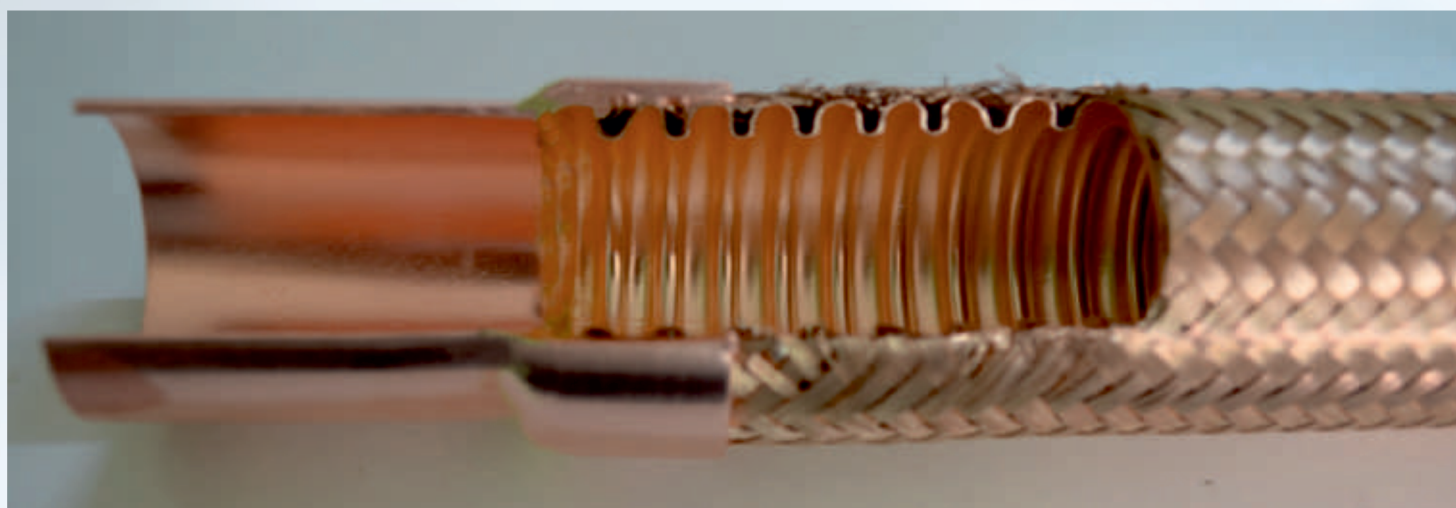
FEATURES

- The Tre-UFlex Hoses are extremely critical accessories and used for protecting vital installations such as medical gas systems from seismic motion like earthquakes.
 - This Seismic Connection Hoses provide flexibility to piping systems and used to absorb possible seismic movements in three axis.
 - In addition to seismic protection, installation cost is lower comparing to conventional expansion joints considering lesser need for space and fixing points and ability for nested installations.
 - Comparing to use expansion joints and conventional piping to absorb vibrations, imposing lesser load to main pipeline is one of their significant advantages.
 - Braided flexible hoses are consist of two parallel sections of braided bronze hose, a 180 degree return bend, with inlet and outlet 90 degree elbow connections.
 - The hoses are engineered to move in all three planes, and is impart no thrust loads to system anchors.
 - Materials of construction of the braided bronze hoses are bronze braid.
 - End fittings is consistent with pipe material and connection fittings.
 - Seismic Tre-UFlex hoses are designed to meet the design pressure, temperature, and movement requirements for the system.
 - Hoses is capable of accommodating piping system and equipment movements and vibration as needed.
 - Bronze flexible hoses, braided and their assemblies are designed to allow frequent movement or pliability.
- Flexible hoses are the standard of the industry in braided connectors for copper piping. This style connector is constructed with bronze flexible hose&braid for high pressure ratings.
- Flexible hose is offered with standard copper sweat/tube ends.
 - Its nominal size is 22,28,35,42,54,76,108 mm. Other nominal sizes can be produced in accordance with the customer's requirements.

SEISMIC EXPANSION JOINT

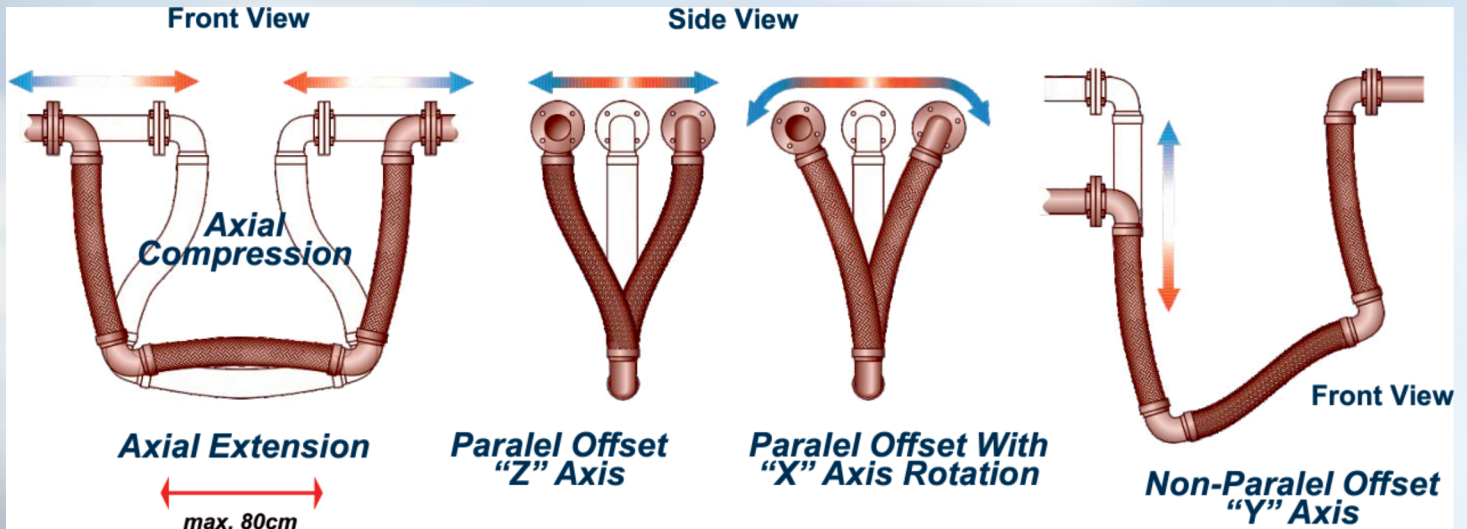


Dimensions							
	PIPE SIZE DN		Inner Diameter	Outer Diameter		d d1 d2	
Product code	Ø copper pipe	Ø U-flex pipe	d	d1	d2	tol. (±)	Max. Working Pressure
SEISMIC U-FLEX-15mm	15mm	15mm	13.4	20.2	22.1	0.20	10 bar
SEISMIC U-FLEX-22mm	22mm	22mm	19.2	26.0	27.0	0.20	10 bar
SEISMIC U-FLEX-28mm	28mm	28mm	23.3	31.2	33.1	0.30	10 bar
SEISMIC U-FLEX-35mm	35mm	35mm	31.3	39.6	43.0	0.30	10 bar
SEISMIC U-FLEX-42mm	42mm	42mm	37.4	48.4	54.0	0.30	10 bar
SEISMIC U-FLEX-54mm	54mm	54mm	49.8	59.8	65.2	0.40	10 bar
SEISMIC U-FLEX-76mm	76mm	54mm	49.8	59.8	65.2	0.40	10 bar
SEISMIC U-FLEX-108mm	108mm	54mm	49.8	59.8	65.2	0.40	10 bar



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MOVEMENT CAPABILITIES



The Tre-UFlex Hoses flexibility translates into compactness, requiring a fraction of the space of hard pipe loops. Run can be made smaller, tighter and with fewer guides and supports than are required for hard pipe loops. A single Flexible Hose can be designed for a large movements, eliminating multiple expansion joint locations. Compared to bellows type joints, the U-Flex Hoses has incredible flexibility and zero pressure thrust. This means a low force to compress, insignificant anchor loads, and minimal guiding requirements. The flexible hoses combine two time proven technologies, the hard pipe loop and flexible bronze hose and braid. Together they significantly reduce the size, anchor loads, support requirements and costs compared to a hard pipe loop designed for the same movement.

