

General information

Metal hoses are especially suitable for high temperature applications (max. 800 °C), extremely low temperatures, in full vacuum, for the absorption of an off-set, movement or vibrations. Examples of use: thermal oil, loading of cryogenic gases, chemicals, fire hoses to turbines, in heating and air conditioning systems etc.

Overview



Characteristics

- resistant to many chemicals and gases
- Very broad temperature range -200 °C to + 600 °C
- 100% diffusion sealed
- electrically conductive
- fire-proof

Standards

The parallel corrugated hoses, of the types Econox S and Combiflex, comply to the standard ISO 10380, flexibility class 1. ISO 10380 guarantees the mechanical strength of the hoses that are characterized by their dynamic bending radius. The hoses are guaranteed for a minimum service life of 50.000 cycles, at the pressure stated in the specifications with the associated dynamic bending radius.

Hose assembly

Metal hoses are delivered as a complete assembly, with the exception of the Combifit hoses. The series of standard hose connectors makes it possible to manufacture hose assemblies in accordance with ISO 10380 within a short period. The couplings are welded to the hose as per the TIG procedure, which results in a reliable connection.

Tolerance

The length of the hose assembly is the total face to face length across the sealing faces of the couplings. The length tolerance is - 0% +3% as per ISO 10380.

Testing and certification

To guarantee all characteristics of our flexible hoses, all test results are verified under control of Bureau Veritas against ISO 10380.

The parallel corrugated metal hoses are pneumatically tested before delivery. We can also offer other test possibilities, such as hydrostatic pressure tests with water. Certain versions comply with DIN DVGW.

Type approval:

The Econox S and N hoses have a type approval from:

- DNV
- IMO
- Bureau Veritas
- Lloyds
- Germanische Lloyd

Clean

For specific media, such as oxygen, the SS hoses can be cleaned according to a predefined procedure.

Technical information

Many factors influence the service life of the hose:

- Hoses need to be installed free of sharp bends and torsion
- Pulsating pressures influence the service life of the hose. The peak pressure may not exceed 50% of the maximum operating pressure of the hose
- A high flow velocity shortens the service life of the hose
- The pressure loss in a parallel corrugated hose is equal to the pressure loss in a steel tube if the diameter of the hose is 15% greater than the diameter of the steel tube
- The specified operating pressure in the Econox hose tables applies only at a temperature up to max. 20 °C. At higher temperatures the max. admissible operating pressure (OP) should be determined based on the table below

Temperature °C	AISI321	AISI316L
200 to 500	1	1
100	0.96	0.94
150	0.92	0.9
200	0.88	0.86
250	0.84	0.82
300	0.8	0.78
350	0.76	0.74
400	0.72	0.7
450	0.66	-
500	0.6	-
550	0.54	-
600	0.44	-

Variants

Metal hoses are available in several versions:

- Parallel corrugated hoses with and without braiding
- Parallel corrugated hoses without braiding especially for HVAC applications. These hoses can be found in the "HVAC valves & fittings" section.
- Wrapped hoses for granulated material and discharge
- Special versions
- Connections

Extra features

- Anti-kink casing can be applied over a part or over the entire length of the hose to protect the hose against kinking and damage to the braiding
- Anti-kink spiral to prevent kinking directly behind the coupling.
- A metal spiral can be applied to protect of the braiding.
- Thermal insulation through a fibreglass silicone outer mantle (maximum 260 °C continuous, 1000 °C during 15 - 20 minutes, maximum 1600 °C during 15 - 30 seconds)
- Mechanical protection and thermal insulation by a rubber outer mantle (maximum 80 °C)



Anti-twist casing



Protection spiral



Protection spiral