



Personalized Solution
for you industry

XTUBE® Monotube

Description

XTube® Monotube heat exchangers are constructed from stainless steel and are formed by having two concentric tubes, the inner tube being demountable from the outer tube. The fluid to be treated is normally passed through the corrugated inner tube and the service fluid, providing the source of cooling or heating, passes through the annulus formed by the two tubes.

This range is formed from units of different tube diameters chosen according to the flow rates of the working fluids. Corrugated tubes are used in order to significantly enhance the rate of heat transfer and thus minimise the size of heat exchanger required.

The fluid circulating through the inner tube (the product) and the fluid circulating through the annulus formed by the two tubes (the service fluid) are completely isolated from one another and cannot interleak, the heat being transferred via the tube wall of the inner tube. Leakage of the service fluid to atmosphere is prevented by a pair of elastomeric O ring seals at each end of the tube. One end of the inner tube is fixed to the outer tube assembly while the other end is free to expand and contract with the change of temperatures occurring in service, thus avoiding the potentially damaging stresses that occur in other types of fully welded heat exchangers.

When a specific application requires multiple units interconnected in either series or parallel flow regimes the necessary interconnecting manifolds, bends and support frame can be supplied for floor, wall or ceiling mounting.

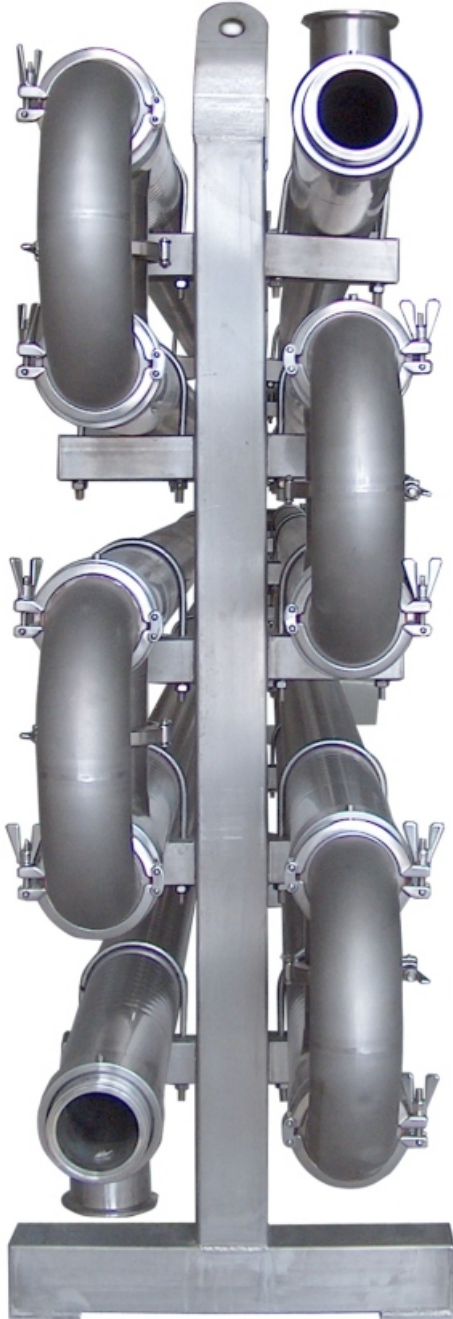
All of our units are designed and manufactured according to the CE marking regulations contained in the European Pressure Directive (97/23/EC) and are CE marked when we are permitted to do so.

If the application or the clients own preference demands it, an equivalent range of all welded units is also available.

Applications

The XTube® Monotube heat exchangers can be used in the following and many other applications:

- Heating and cooling fluids containing particles and fibres etc.
- Heating and cooling sewage treatment plant sludge.
- Heating and cooling sauces and fruit or vegetable purées and pulps.
- Heat recovery from industrial effluents and dirty waste water.
- High temperature and pressure applications.



Materials of construction

All product wetted components (interior tube and bends etc.) are manufactured from AISI 316L stainless steel but for more aggressive fluids a range of Duplex stainless steels are also available. The service side components are normally made from AISI 304 stainless steel but AISI 316L and Duplex steels may be used when required.

Areas not in contact with the working fluids are normally constructed from AISI 304 stainless steel.

Silicone rubber is normally used for the O ring seals and connection gaskets or seals but a wide range of alternative elastomers are available when specific applications require them.

Alternative materials can be offered for all wetted components on application.



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Connections

To allow a rapid and flexible installation and easy inspection of the units the XTUBE® Monotube heat exchangers use ISO standard ferrule/clamp connections. If the matching ferrules, clamps gaskets are required by the client for installation purposes these can be supplied on request to allow connection to the clients' pipework system.

For special applications, or at the request of the client, flanges conforming to one of the international flange standards can be provided, rated for the operating pressures and temperatures of the unit.

Design Conditions

These will depend on the specific process and system requirements of the application but when not specified the standard design conditions for the XTUBE® Monotube heat exchangers are the following:

■ Minimum and maximum allowable working temperatures: -40°C / +180°C

■ Minimum and maximum allowable working pressures: 10 Bar(g)/Full vacuum

Higher pressures and temperatures are possible on request.

Standard dimensions

XTUBE® Monotube heat exchangers can be delivered in various lengths, the standard dimensions being approximately 1500 mm, 2000 mm, 3000 mm and 6000 mm.

The exterior tube diameters used are as follows: Ø 88.9 mm, 104.0 mm, 114.3 mm, 129.0 mm, 141.3 mm, 168.3 mm, 219.1 mm, 273.1 mm, 323.0 mm and 406.4 mm. The tube thickness used will depend on the design conditions for each application.

The diameters of the interior tube and its wall thickness will be chosen to meet the requirements of each application.

