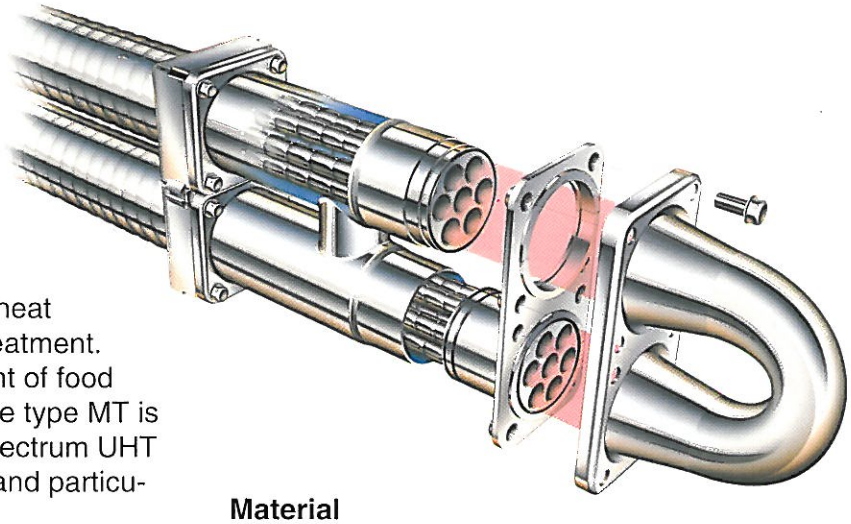
Tetra Spiraflo™ Multitube type MT

Single-pass shell and tube heat exchangers



Applications

General heating and cooling duties, heat recovery, pasteurisation and UHT treatment. Hygienic design suitable for treatment of food products. The Tetra Spiraflo Multitube type MT is specially recommended for broad-spectrum UHT plants treating free-flowing, viscous and particulate products.

Working principle

The Tetra Spiraflo Multitube type MT operates on the classic shell and tube principle, with the product flowing through a group of parallel tubes and the service medium between and around the tubes. The tubes can be either corrugated or smooth. Corrugated tubes increase the turbulence.

The product is supplied to the tubes and the service medium to the shell. The product tubes range from a single large-bore unit to those incorporating several small-diameter tubes. The Multitube type MT is designed for single pass operation, with all tubes connected in parallel and counter-current flow with the service medium. Multitube type MT are grouped in modules which can be banked in series and/or parallel.

Standard design

The heat transfer surface consists of a bundle of straight tubes welded into tube plates at both ends. The tube plates are in turn sealed from the outer shell by a double O-ring – a floating shell and tube insert design. This design allows for the product tubes to be taken out of the shell for inspection by slackening the end screws and removing the product bend. The floating tube insert absorbs thermal expansion, and can be exchanged for different tube combinations. The system is based on a complete modular concept to provide for simplicity in multiprocessing and rearrangement of the tube modules.

Material

Tubes	Pressure vessel steel, AISI 316(L)
Shell	Pressure vessel steel, AISI 304 Polished semi-bright exterior finish.
Design temp.	160°C (320°F)
Design press.	2.0 – 5.0 MPa (290 – 725 psi)
Approval	Approved for above specified temperature and pressure range according to SA (The Swedish Design Inspectorate)

Dimensions

Shell diameter	57 – 154 mm (2.25" – 6")
Tube diameter	12.0 – 101.0 mm (0.5" – 4")
Number of tubes	1 – 37
Module length	6 m (20')
Tube wall thickness	1.0 – 2.0 mm (0.04" – 0.08")
Corrugation pitch	25 mm (1")
Max. corrugation depth	2.5 mm (0.1")

Connections

Tube side	Flange with concentric reducer, welded stud
Shell side	Connections for welding Various international fittings

Optional equipment

Accessories	Mounting stand (base frame) Protective panels
Material	254 SMO
Ratings	Other pressure vessel standards Other temperature/pressure range