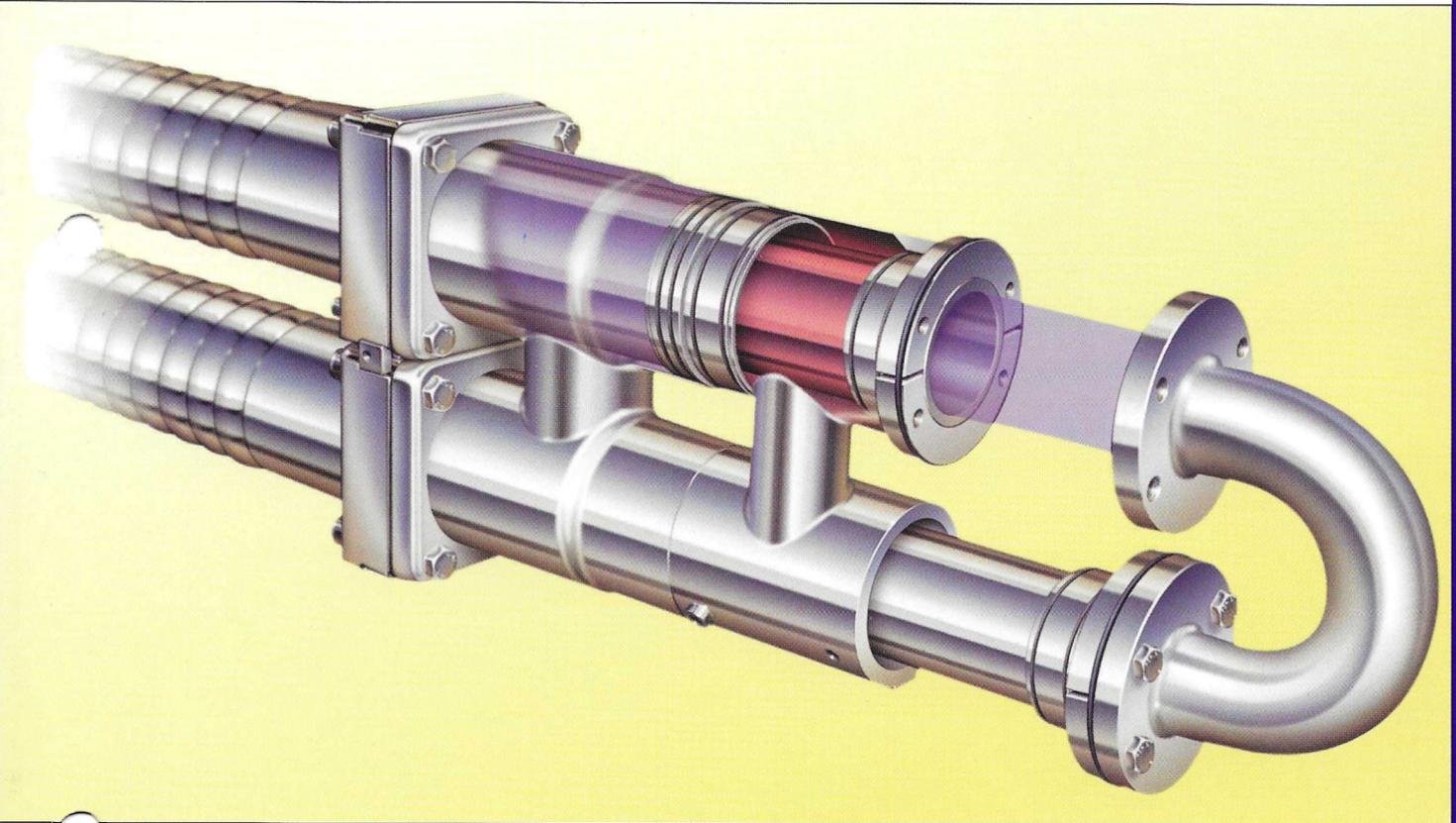


Tetra Spiraflo® MTC

Concentric tubular heat exchangers
for viscous food products



Applications

General heating and cooling duties, pasteurisation and UHT treatment. Hygienic design, suitable for treatment of aseptic and non-aseptic food products. The Tetra Spiraflo MTC is specially recommended for processing of viscous food products.

Working principle

Tetra Spiraflo MTC is a single-pass shell and tube heat exchanger, with the product flowing in the gap between two concentric tubes and the service medium on both sides of these tubes.

The product tubes are smooth non-corrugated

for reducing pressure drop when processing viscous products.

Each Tetra Spiraflo MTC heat exchanger is designed for single pass operation, with the product tube connected in counter-current flow to the service medium. The modules are normally connected in series and grouped on a common frame together with other Tetra Spiraflo MT tubular heat exchangers as they are parts of the same modular system. For dimensions see leaflet PD 63509.

The wide gap version can handle particulated products with particle sizes of max. 5 – 10 mm.

Tetra Spiraflo® MTC – concentric tubular heat exchanger

Standard design

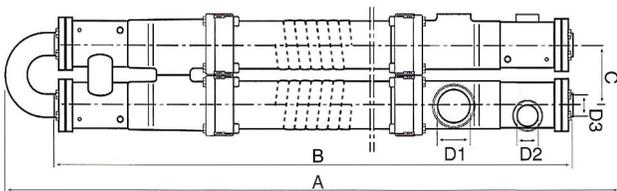
The heat transfer surface consists of two straight concentric tubes welded onto tube plates at both ends. The tube plates are in turn sealed from the outer shell by O-rings – a floating shell and tube insert design. This design allows for the product tubes to be taken out of the shell for inspection by unscrewing the end couplings and removing the product heads. The floating tube inserts absorb thermal expansion and can be exchanged for other tube configurations.

Material

Tubes (in contact with product)	Pressure vessel steel, AISI 316 (L)
Shell	Pressure vessel steel, AISI 304
Design temperature	160°C (320°F)
Design pressure	5 MPa (740 psi) for product side
Approval	Approved for above specified temperature and pressure range according to SAQ (the Swedish pressure vessel authority)

Dimensions

Measurements in mm.

	MTC 70	MTC 108	
	A	6 390	6 464
	B	6 220	6 232
	C	105	140
	D1, SMS	51	76
	D2, SMS	38	51
	D3, flange with welding end	25,4 x 1,25	52 x 1,5

Connections

Product side	See D2 in table below EPDM gaskets
Media sides	See D1/D3 in table below

Optional Equipment

Material

- Tube inserts of product channel in SMO material.

Accessories

- Steam barriers between sealings of product channel.
- Mounting stand (base frame)
- Protective panels
- Holding tubes

Ratings

- Other pressure vessel standards
- Other temperature/pressure ranges

Particulars required for quotation

To enable your Tetra Spiraflo representative to make a specific quotation on a suitable unit, inquiries should be accompanied by particulars of required flow rates, temperature programme, physical properties of product and media, desired working pressure and maximum acceptable pressure drop.

Range of Tetra Spiraflo MTC - Concentric tubular heat exchangers

Type of module	Shell diam, mm	Product channel gap, mm	Module length, m	Volume media, l	Volume product, l	Heat transfer, m ²	Weight per tube, kg
N - Normal gap							
MTC 70/N-6	70	6	6	10,5	5,0	1,66	50
MTC 108/N-6	108	6	6	28,9	9,3	2,9	121
W - Wide gap							
MTC 70/W-6	70	12	6	9,7	8,4	1,45	48
MTC 108/W-6	108	14	6	23,2	19,2	2,6	114

All values stated are approximate.
All Tetra Spiraflo MTC tubes are designed with smooth product tubes.

