Pharmaceutical and Sanitary Heat Exchangers

P-LINE and S-LINE - a new series of exchangers for pharmaceutical and food industries and suitable for all other applications that are in compliance with FDA and 3A.

The unique construction of P-LINE and S-LINE series exchangers prevents cross-contamination of the media even in the case of unsealing of the tubesheet-tube connections; it also ensures correct operation in applications requiring the highest standards of cleanliness.

INDUSTRIES:
- pharmaceutical,
- biotech,
- food processing,
- beverage production,
- dairy,
- cosmetics, fragrances,
- semiconductor,
- high purity.

APPLICATIONS:

Food & dairy industry:
- juice and syrup handling,
- chocolate and high viscosity products handling,
- brewery,
- milk cooling,
- pasteurization.

Pharmaceutical:
- clean steam,
- blood, plasma or media growth heating systems,
- water for injection systems (WFI),
- process equipment.

GENERAL DATA:

Design pressure:
- tube side: 1.0 MPa,
- shell side: 1.6 MPa.

Design temperature:
- tube side: -17°C / 140°C (Viton seal),
  -25°C / 121°C (Silicon seal),
- shell side: -25°C / 203°C.

Surface roughness of the clean side:
- P type exchanger: Ra ≤ 0.5 μm,
- S-type exchanger: Ra ≤ 0.8 μm.

Manufactured in accordance with the PED, ASME, 3A, SELO, GOST.
CHARACTERISTICS:
- full compliance with FDA, cGMP and 3A requirements,
- construction made of 316 stainless steel or titanium,
- system of complete separation of the media, even in the case of unsealing at the tubesheet,
- dismountable construction without dead spots, minimizing the possibility of microbial growth,
- all surfaces in contact with the clean medium polished to Ra < 0.5 µm or Ra < 0.8 µm,
- certificated seamless tubes of the exchanger, polished internally and externally,
- certified seals for clean applications,
- one-, two- or four-pass types, depending on the requirements of thermodynamics,
- both vertical and horizontal mounting available.

DOUBLE TUBESHEET

Double tubesheet guarantees no contamination of clean fluid by heating/cooling media.

CONNECTIONS:
- connections on the tube side - "tri-clamp" type sanitary connectors in accordance with DIN 32676,
- possible sanitary clamps acc. to ASME BPE or SMS 3017,
- connections on the shell side - flat flange according to EN 1092-1,
- connections according to ASME B16.5 on request.

GASKETS:
- 3-A approved Viton and Silicone sterile side gaskets, in accordance with FDA requirements,
- gaskets not in contact with clean fluid made from EPDM or NBR.