LSC- DTS Laboratory Sample Condenser

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This LSC unit range of stainless steel tube shaft sterile heat exchangers with Double Tube Sheet (DTS) have been designed to allow Clean Steam (CS) and Water For Injection (WFI) samples to be taken quickly and easly whilst mantaining a sterile testing environment. LSC are ideal to be mounted at the sampling point and can be operated with either mains or chilled water as the cooling medium. Availability of aseptic sample valve allow fine control of sample flow during testing
The LSC can be sterilised in situ-on-line, thus ensuring continuity of samples regardless of testing frequency, ideal for fluids in pharmaceutical and purity systems applications.

Typical applications:

- Steam sampling
- In-line conductivity monitoring
- Point of use cooling

Feature offered by the unit include:

- AISI 316L (1.4404) stainless steel construction
- Double Tube Sheet (DTS)
- Meets FDA and 3A specifications
- Full material traceability
- Self draining design
- Compact, easy to install
- Fully sterilisable/autoclavable

Sample Condenser operation

The medium to be condensed/cooled passes throught the tube side. Typically a regulating valve will be used to throttle the sample medium flow. Cooling water is channelled countercurrent inside the shell in order to ensure maximum efficiency.
The heat energy of the sample medium is absorbed by the flowing cooling water, resulting in a drop in the sample temperature.
Where steam is the sample medium, the cooling water will firstly absorb the steam's latent heat content, condensing it back to water. Further heat transfer as the condensate passes through the coil will reduce its temperature prior to discharge.
The double tube sheet (DTS) operation prevents any mixing of the two processing fluids, since should the tube contract, the fluid inside of the shell will leak to atmosphere

Operating conditions :
Maximum working pressure 8 barg at 175°C both sides (shell and tube)
@ Note – pressure rating may exceed that of clamps connections

Capacities (approximate) :
- Steam : 10 kg/h of condensate at 100°C
based on a cooling water temperature of 18°C and flow rate of 10 lt/min.

Connections :
Tube side : ½" clamp BS 4825
Shell side : ¾" clamp BS 4825

Standards :
All LSC models according to PED directive 97/23/CE
are CE compliant under the SEP
"Sound Engineering Practice" (Article 3 – Paragraph 3)

Surface finish :
product contact surface are finish with Ra<0,5 micron or better