Transfer line exchangers

Improve reliability and reduce fouling with Alfa Laval Olmi heat exchangers

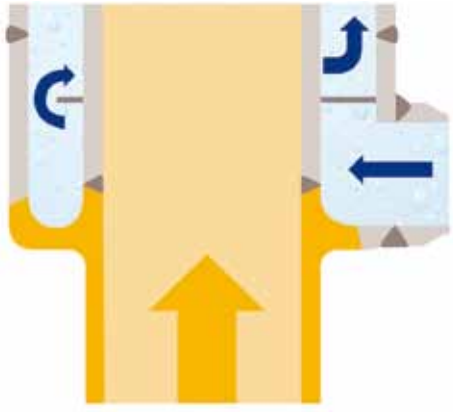
Transfer line exchangers operate under very harsh conditions. Coke particles in the hot gas cause two major problems in traditional heat exchangers: erosion and fouling.

A third potential problem is corrosion on the water side of the heat exchanger due to poor water quality control. These problems can cause severe failures, and in the worst case production loss.

Alfa Laval offers two different types of transfer line exchangers, both with unique features that increase reliability and uptime.

Double Pipe Linear Quench Exchangers (LQE or PQE)
A cracked inlet Y piece is a common problem among traditional double pipe linear quench exchangers (LQE). Alfa Laval Olmi's LQE is designed without a thermal sleeve and effectively puts an end to this problem.

The difference in thermal expansion between the inner and outer tube is dramatically reduced thanks to a very short residence time of the hot gas in the Y piece, and efficient cooling. The connection between the two tubes is flexible enough to handle the small expansion differences, eliminating problems with fatigue and cracks.



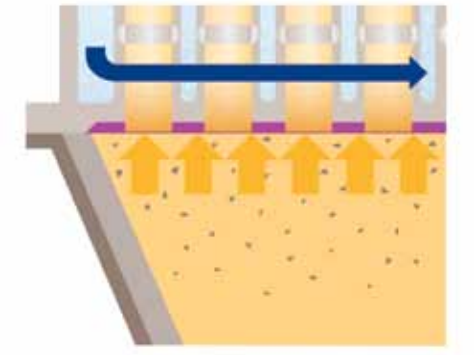
Alfa Laval Olmi's LQE is designed to minimize the residence time of hot gases in the uncooled part of the LQE. Together with highly efficient cooling, this eliminates the need for a thermal sleeve and the risk of ruptures in the inlet.

Transfer Line Exchangers (TLE)
The weakest points of a traditional transfer line exchanger (TLE) are the welds connecting the heat exchanger tubes to the tubesheet. Being directly exposed to hot gas and high-speed coke particles means erosion is inevitable.

Corrosion on the water side of the TLE may also be a problem, especially in vertically arranged units where the welds are at the lowest point in the water circuit and can be covered by settling dirt.

These problems have been solved in Alfa Laval Olmi's transfer line exchanger by simply moving the position of the welds. The tubesheet and the first part of the tubes are forged as one piece and the welds are placed a few centimetres up from the base plate.

An Inconel layer and efficient cooling make the tubesheet extra durable against the impacting coke particles. No additional non-integral, anti-erosion distribution device is needed in the inlet cone to protect the tubesheet. This means the pressure drop is minimal, with less fouling as a result, and there is no need for maintenance stops to replace the distribution device.



The placement of the welds connecting the tubes to the tubesheet protects them from impacting coke particles, effectively minimizing erosion. The inlet is covered by a layer of Inconel that withstands coke particles in the hot gas. This means there is no need for a distribution device, resulting in a low pressure drop and minimal maintenance costs.

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com.