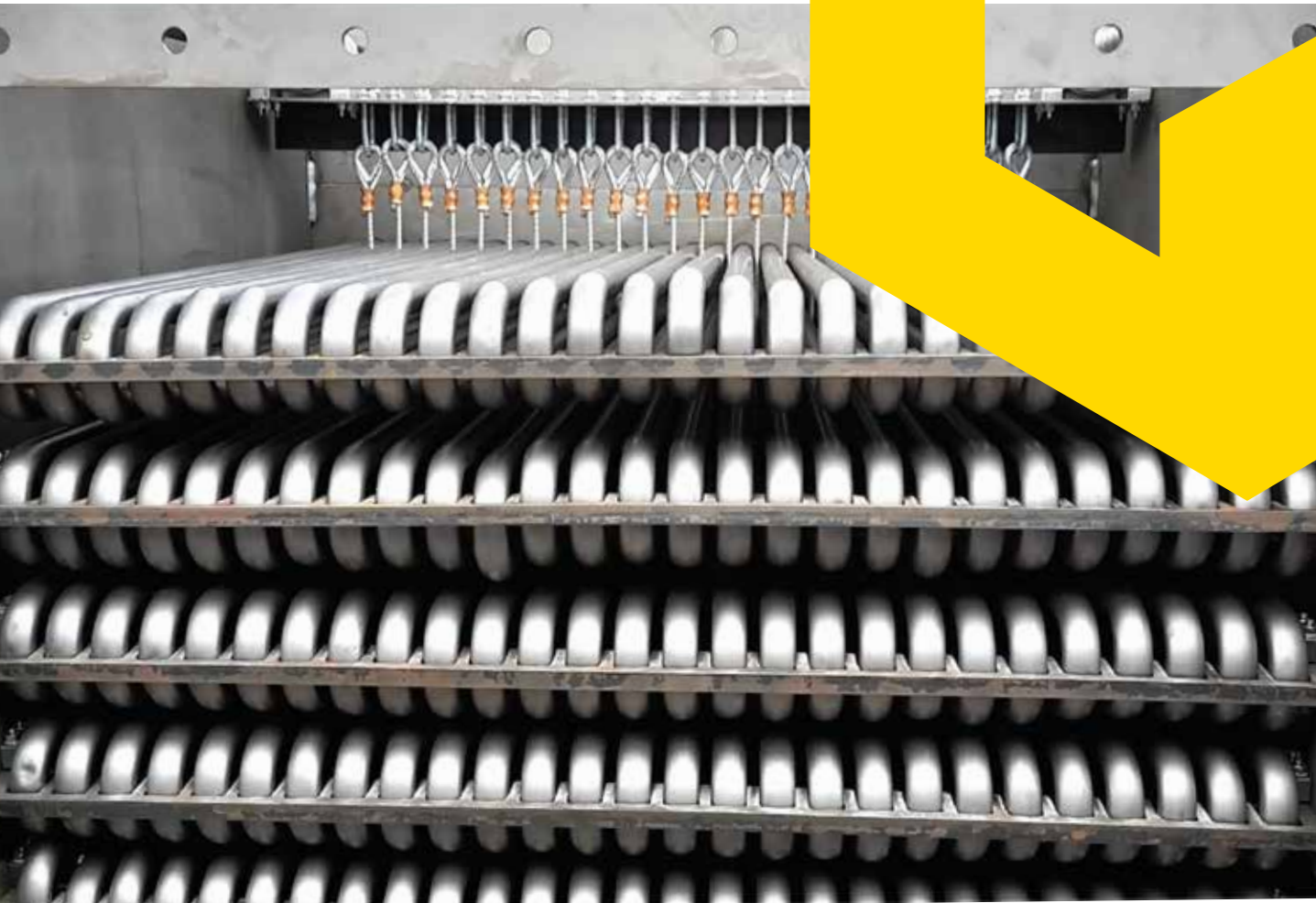


HEAT EXCHANGER FOULING



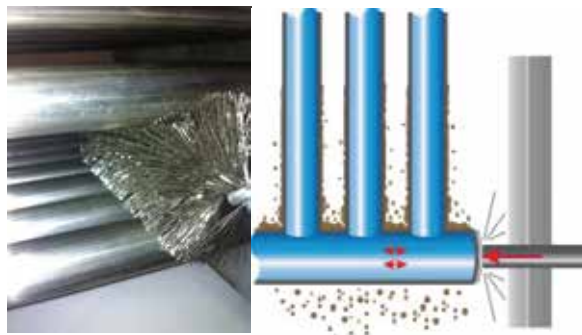
The greatest enemy for the performance capacity of heat transfer using heat exchangers is fouling. The deposition of any undesired material on heat transfer surfaces is called fouling. Fouling may significantly impact the thermal and mechanical performance of heat exchangers.

Fouling increases the overall thermal resistance and lowers the overall heat transfer coefficient of heat exchangers. Fouling also impedes fluid flow, accelerates corrosion and increases pressure drop across heat exchangers.

BRUSHING CLEANING SYSTEM

An automatically operating online cleaning system using brushes to avoid fouling on top of the tube banks. Most fouling falls on top of the tubes. The continuous operation of cleaning provide clean tubes for an optimal heat exchange situation.

There are different options to provide this brushing system. Geurts provides systems with a wire mesh frame, or twisted wire brushes. This system can also be combined with other cleaning systems.



GENERAL

It is important to consider fouling in the design of a heat exchanger. There are different methods to provide the added heat transfer area needed to account for the expected fouling and maximize runtime between cleaning. Practice and theory are two different things, where even unexpected situations can occur.

Geurts International has acquired considerable experience in solutions for removal of fouling. For cleaning sticky fouling we advise designs with removable hatches or removable bundels or removable front and rear headers. We see the best results in this way of cleaning, although this requires downtime. In our designs we reduce downtimes as much as possible by using easy access solutions. For non-sticky fouling Geurts designed online cleaning brushing systems, rapping cleaning systems, and cable cleaning systems. Those systems can be provided as mechanical, pneumatic or electrically driven.

Benefits using our systems:

- Keeping heat exchanger tubes continuously clean and providing optimal heat exchange
- Maintains process efficiency by optimizing the heat transfer capacity

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