

Application Report No. A 04-1e

Heat Exchanger Cleaning - Manual

Page 1/2

Status: 10/2005

PTC, Italy

In refineries and in petrochemical plants hundreds of heat exchangers (tube bundles) have to be cleaned every year.

During the shut-down period where the time available is limited, very often fully-automatic cleaning systems are used (refer to our report A 04-2e).

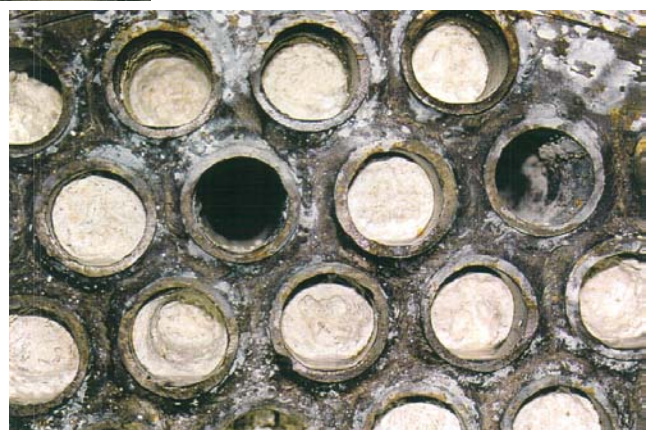
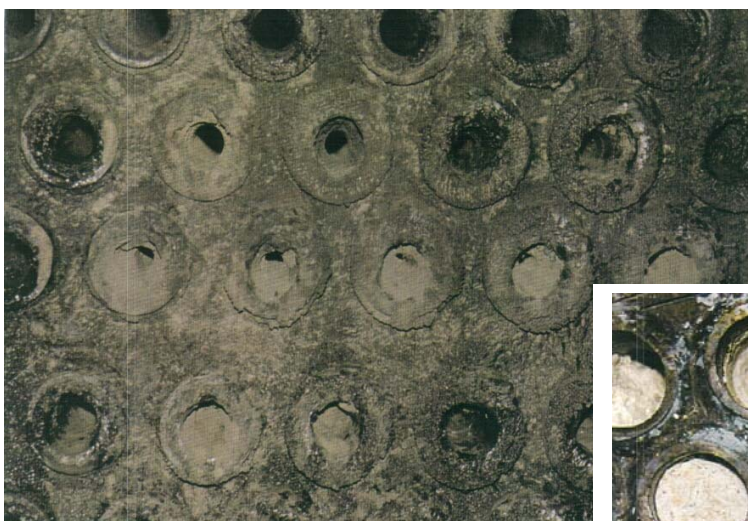
Whenever cleaning is required during the rest of the year, the work is carried out by contracting companies and is done manually.

For instance, in a refinery in Turkey our customer is carrying out the work using a KAMAT pump model **K 13024 A** (1000 bar at 68 l/min).

Photos on the right and below:

The photos on this page show various types of tube bundles prior to cleaning.

The deposits on the shell side (external) and the incrustations on the tube side (internal) are clearly visible.

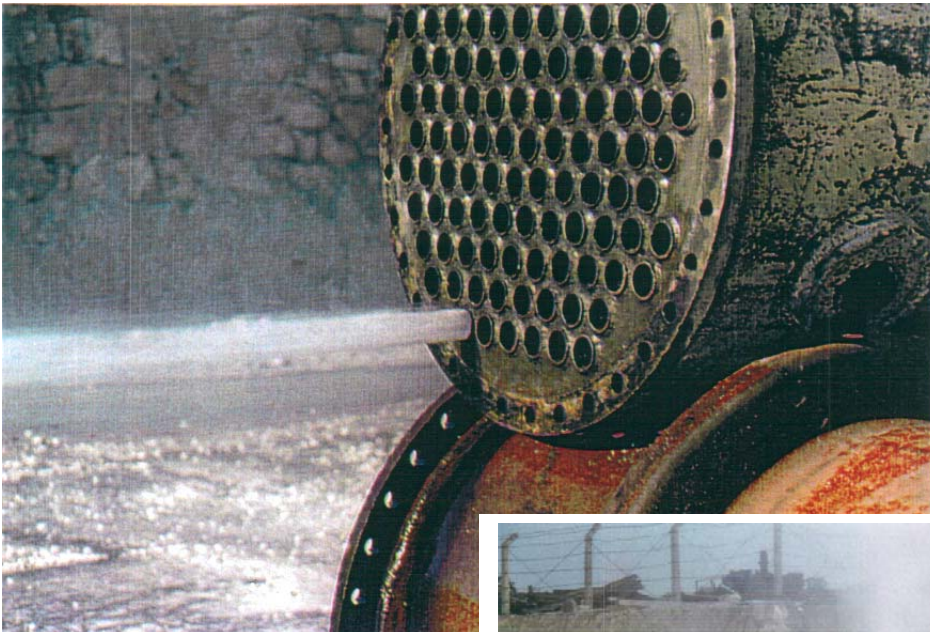


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Page 2/2

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Photos above and on the left:

The tubes were cleaned internally using a steel hose (flexible lance) and a KAMAT foot valve.