



Alfa Laval services heat exchangers in record time

Midor, Alexandria, Egypt



A team of service technicians from Alfa Laval working in close cooperation with local service personnel performed a complete service on four Alfa Laval Olmi heat exchangers at a refinery in Egypt. Thanks to meticulous planning and well-managed execution on site, the service was completed faster than planned.

Service Agreement

Oil refining company Midor operates the largest refinery in Egypt, situated just outside Alexandria. In 2018 the company entered into a service agreement with Alfa Laval for its Alfa Laval Olmi shell-and tube and air-cooled heat exchangers. The service agreement gives Midor the benefits of full service support from the original manufacturer of their equipment and predictable maintenance costs.

Full service of four feed/effluent heat exchangers

A year later the first units were serviced: four Alfa Laval Olmi high-pressure shell-and-tubes operating as feed/effluent heat exchangers. The service team consisted of 11 product specialists from the Alfa Laval Olmi manufacturing site in Italy and 20-30 local service technicians from Midor's service provider Eprom.

From planning to recommissioning

Alfa Laval planned the entire service, provided all necessary spare parts and special tools, supervised the execution and recommissioning, and assisted with troubleshooting when required.

The service had to be carried out during a plant turnaround and completed in 18 days, meaning the technicians had to work in two shifts to meet the deadline. The Alfa Laval team tailored and planned the sequence of activities in great detail to ensure the work would be completed in time.

Full service

The service comprised the following stages:

- Opening of the covers
- Removal of the tube bundles
- Inspection and mechanical cleaning of the bundles and the shell
- Reinstallation of the tube bundles
- Closing of the covers
- Final test, including hydrostatic testing

Customized equipment solved a long-standing problem

The nuts and stud bolts that attach the cover to the shell had rusted in the corrosive environment. Because of this, Midor's service personnel had not been able to open and clean three of the four heat exchangers since they were first commissioned 19 years earlier.

To solve the problem, Alfa Laval developed a custom nut splitter and a high-performance power wrench that were used for removing the nuts and bolts.

Restoring the heat exchangers

Once the heat exchangers were opened, the tube bundles were removed, mechanically cleaned and inspected using eddy-current testing.

The shells underwent hydraulic testing and the gasket seating faces were machined using a portable boring machine developed by Alfa Laval.

All screws, bolts and nuts in the heat exchangers were exchanged, all damaged gasket surfaces were restored and all bolt holes were rethreaded using custom tools. Everything was thoroughly inspected and tested before the tube bundles were reinserted and the covers attached.

Finally the team from Alfa Laval assisted and supervised the recommissioning of the heat exchangers.

Finished ahead of time

Alfa Laval's service technicians had carefully planned all required steps and provided all necessary instructions, machines and tools – many of them custom made – to ensure that all possible issues could be solved during the service work on site.

This, in combination with good cooperation between the teams from Midor, Eprom and Alfa Laval, resulted in the entire service being finished six days ahead of schedule.

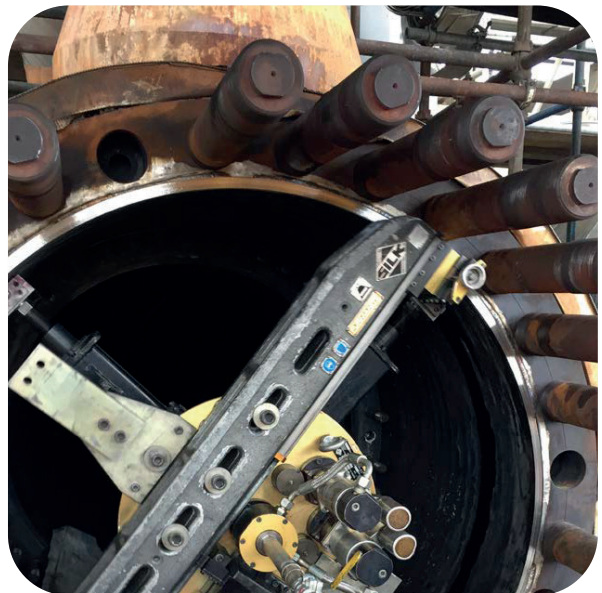
The Maintenance General Manager at Midor expressed that he was 100% satisfied with the work done by Alfa Laval and that he was looking forward to working with Alfa Laval at the next planned turnaround a year later.



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Machining of gasket surfaces using a custom-built boring machine.



Custom-built power wrench.

Fast facts

The plant

Midor refinery, Alexandria, Egypt.

The challenge

To provide complete service for four shell-and-tube heat exchangers in a short time.

The solution

The work was completed ahead of time thanks to detailed planning, customized tools and good cooperation between all teams involved.

The benefits

- Alfa Laval handled all the planning
- Customized tools
- Service provided by the OEM
- Finished ahead of time

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

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