



AlfaPure cuts coolant costs and extends tool life at Ford, Bordeaux

Ford, Bordeaux, France

Case story: Separation system

At Ford's automatic transmission plant in Bordeaux, France, 3,000 gearboxes are produced daily and large volumes of coolant are used in the machining operations. One year ago, an Alfa Laval high speed centrifugal separation system was installed to remove tramp oil and particles as small as 2 microns from the coolant. According to the Maintenance Department this allows more efficient re-use of coolant, gives increased tool lifetimes and contributes to the healthy working environment in the plant.

At Blanquefort in the Bordeaux area of southern France, Ford has two transmission plants. One site, a joint venture with transmission specialist GETRAG, is for manual gearboxes. The other plant, Ford Aquitaine Industrie, produces automatic gearboxes, currently 3,000 per day.

1,000 machine tools in operation

At the automatic gearbox plant two central tanks with volumes of 150 m³ and 110 m³, respectively, supply coolant for 400 machine tools. Altogether the plant has 1,000 machine tools in operation. Previously, the coolant in the tanks was often contaminated by tramp oil from the machine tools and levels were sometimes as high as 10%. Cleaning was handled inadequately by a mobile centrifuge from another supplier.

"With the old machine, it was impossible to stabilise the level of contamination in both tanks simultaneously," explains a



Alfa Laval high speed centrifugal separation system installed at Ford in Bordeaux to clean coolant.



Ford's automatic transmission plant in Bordeaux, France, produces 3,000 gearboxes daily for new Ford vehicles.

Maintenance Department spokesman. "When the level in one tank dropped, the other went up. This led to problems with excessive tool wear, complaints from machine tool operators and lower end-product quality. It was also necessary to replace the coolant at regular intervals."

AlfaPure installed

In late 2003, Michel Franco, Alfa Laval France, working closely with Olivier Michel, from system builder SAFIM, suggested installing an AlfaPure. Following some discussions, Ford agreed.

With a throughput capacity of 4,000 litres per hour, the AlfaPure module is equipped with an automatic PLC-based control system. The challenge of keeping the level of contamination the same in both tanks is solved by electronic switching of the separation system between the tanks. This is achieved by means of two solenoid valves.

The AlfaPure system was started up in December 2003, running five days per week, to reduce the high level of contamination. The Maintenance Department had specified that they wanted a system that could handle the task efficiently within three to four days, thus allowing for future expansion at the plant.

Level of tramp oil decreasing

According to the maintenance technicians, the level of tramp oil in the coolant has steadily decreased during the early months of 2004. "In fact, the AlfaPure separation system is now removing nearly all the tramp oil – it's giving us higher quality coolant than we need."

Although it is too early after only 5-6 months of operation to quantify the savings offered by this solution, the Maintenance Department says that all they need to do now is top up the coolant from time to time instead of purchasing new batches.

A real contribution to quality

"Also we are no longer getting complaints about contaminated coolant from machine tool operators, and the tools last longer. In the past, we have had to adapt our tools to cope with contaminated coolant, now we can use standard tools again. The AlfaPure has made a real contribution to our high end-product quality. It has also reduced oil mist in the plant."

Service of the AlfaPure will be handled by Alfa Laval through system builder SAFIM. Olivier Michel of SAFIM says that he will recommend this solution to his customers for cleaning coolants in the future.



Photos: Courtesy of Ford



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AlfaPure Z – clear thinking from Alfa Laval

Leading the field in separation technology, Alfa Laval presents AlfaPure Z, the next generation of centrifugal separation systems for cleaning and recycling coolants and wash liquids in metalworking operations.

One of the most impressive features of the AlfaPure Z is its user-friendliness. A touch control screen gives a clear overview and simple control of all functions. By efficiently removing oil, grease and solid particles, the AlfaPure Z greatly extends the life of water-based service fluids, helping to cut production costs and raise productivity. The system will normally pay for itself in less than one year.

A complete system with a high capacity to size ratio, the AlfaPure Z module requires less than 1.7 m² of floor space and can handle tanks with volumes of up to 150 m³.

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