

# Case Story.

Alfa Laval Moatti – for when only complete reliability will do.



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Lube oil filter.

**Customers of Alfa Laval Moatti know that they can trust entirely in the reliability of the company's oil filters. When replacing its own die casting machine – a key element in the company's production process – the French subsidiary of the international Alfa Laval Group put its trust in the competence and support of Bühler Druckguss.**

Within the Alfa Laval Group, the French company Alfa Laval Moatti is the specialist for the development and production of large self-cleaning filters. Alfa Laval Moatti has around 50 employees. In its modern factory in Elancourt, to the south-west of Paris, it manufactures automatic oil filters for use, on board ships, on railways, in mines, in generators and in large rolling mills for paper and steel manufacturing, and filters for coolant systems. The company's main focus is on the production of oil filters for ship engines and Diesel generators. Alfa Laval Moatti filters are used by customers all over the world.

#### **Downtime costs money**

"Our customers generally run their ships or machinery 24 hours a day," explains Julien Gennetier, President of Alfa Laval Moatti. "For uninterrupted operation 24 hours a day, seven days a week, it is essential that they have perfectly functioning filters. A defective oil filter can bring a ship to a standstill or make it impossible for a mine to keep running. These industries are characterised by high capital expenditure. If ships or conveying systems grind to a halt due to a faulty filter, earnings are lost while production costs continue to be incurred. If a ship cannot sail due to a filter defect, that means idle capital for the operating company. Therefore our customers must be able to rely 100 % on the operational reliability of our filters. As well as offering excellent reliability, our self-cleaning filters also massively reduce maintenance costs."

#### **From 236,000 to 400,000 filter elements per year**

The core of these specialised filters is formed by filter elements. The quality is of key importance for the reliability of the oil filter as a whole, which is why it is important to Alfa Laval Moatti that it produces them itself. Every single filter element consists of three meshes. Depending on the type and size of the filter, an oil filter may require numerous filter elements. Alfa Laval Moatti produces around 236,000 of these filter elements every year. The remaining components designed by the company are sub-contracted. In the production of the filter elements, the steel meshes are cast into an aluminium frame. This casting process requires a very high degree of precision, because the quality of the filters depends on it. For 20 years now, Alfa Laval Moatti has sourced its die casting machines from Bühler. "When it was time to replace our die casting machine, we therefore opted for Buhler once again," says Pierre Chambrion, Head of Production at Alfa Laval Moatti. "For us, the name Buhler has always been synonymous with quality and reliability. And we don't regret our choice!"

#### **Target: increased output**

"Our decision to replace our die casting machine was motivated by a desire to increase productivity and capacity," explains Pascal Ehlen, project manager at Alfa Laval Moatti. "Above all we wanted to automate the entire process in order to reduce cycle times and increase our capacity to enable us to cast in 400,000 filter elements

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annually. We also wanted to be capable of producing larger filters than before.” In June 2008, Alfa Laval Moatti ordered an Evolution E34D die casting machine from Bühler Druckguss. The system also includes a smelting installation with metering unit, a spray system, a filter magazine, and a robot that feeds the machine with the raw meshes, removes the finished filter elements, removes burrs, marks the parts and finally deposits them on a cooling section. Before, all of these processes were carried out manually.

### **Simple solution**

Automating the entire process turned out not to be as easy to implement as had been thought. In particular, a special solution needed to be found to insert the metal filters into the machine. However, on the basis of close cooperation with project manager Pascal Ehlen and the engineers from Bühler Druckguss, it took just a month to find a simple and cost-effective automation solution to meet Alfa Laval's requirements. Installation of the complete die casting machine commenced in October 2008. Thanks to a new building with an area of more than 2,500 square metres



Cooling conveyor with casted filters.

constructed specially for the new system, the entire material flow also improved. After just a few trial runs, it was clear that the new system would easily satisfy the customer's requirements. The automation of the processes involved meant that the new system had a daily output of 40 % more than the previous machine. The cycle time was reduced to 30 seconds. Thanks to the robot, the machine operator is now also able to concentrate on parallel processes such as furnace cleaning or preparatory tasks. On 17 December 2008 – in other words, just six months after the order was placed – the new die casting machine

was handed over to the management of Alfa Laval Moatti in Elancourt. Its grand inauguration finally took place on 11 March 2009.

### **“We felt good”**

Since it went into operation, Alfa Laval Moatti’s new die casting plant has been functioning to the company’s full satisfaction. Project manager Pascal Ehlen, who has many years of experience in the field, says, “The new plant completely meets our expectations in terms of reliability, speed and quality.” And he adds, “But that is only one of the reasons why we are so satisfied. We are also very impressed by the way things proceeded in our cooperation with Buhler. Bühler Druckguss was a strong partner and a contact for all aspects of the project. Buhler responded helpfully to all of our questions and concerns.

Buhler dealt with all issues of concern to us, coordinated cooperation between the various suppliers for the metal feed system, the spraying unit, the enclosure and the cooling conveyor, as well as with the robot supplier ABB and Marti Engineering, and subsequently combined the individual components to create the whole. We were also impressed by the commitment with which the Bühler Druckguss team dealt with our requests, even though we are only a small customer for them. We simply felt good with Buhler.”

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## **Alfa Laval**

Alfa Laval was established in Sweden in 1883. Alfa Laval’s first product was a centrifugal separator. Today, the Alfa Laval Group is a leading producer worldwide of heat exchangers and systems and machines for the filtration and transportation of fluids. The companies of Alfa Laval employ more than 11,000 people in 100 countries, and generate a Group turnover of around €2.8 billion. The Alfa Laval Group has its headquarters in the Swedish city of Lund.

[www.alfalaval.com](http://www.alfalaval.com)

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left: Jean-Claude Bouillant, Operator / right: Pascal Ehlen project manager.



Bühler Druckguss AG  
CH-9240 Uzwil, Switzerland  
T +41 71 955 12 12  
F +41 71 955 25 88  
die-casting.info@buhlergroup.com  
www.buhlergroup.com

