



Anshan Iron and Steel pick up speed

How decanter centrifuges make tar lighter and more cost-efficient

Case story

The Anshan Iron and Steel Group Corporation produce over 30 million tons of iron and steel every year, making them leaders in their industry in China – a role they see as a serious responsibility. That was one reason it was important to them to be among the first in their market to modernise the coal tar recovery process with the latest decanter centrifuge technology. Alfa Laval was there to help.

Anshan Iron and Steel already had around 20 Alfa Laval decanters to handle tasks in various stages of dust and sludge removal at their steel work. However, the Coke Oven Gas (COG) plant – which is divided into four production lines and annually produces more than 7 million tons of coke – did not yet have any decanters. It needed an upgrade. But putting in decanters at the Coke Oven Gas (COG) factory for the process of coal tar recovery would require careful consideration.

First, there was the investment to think about. Second, it would be a pioneering move: there was not much experience with decanters used for this purpose in China. Nevertheless, the financial and environmental benefits tipped the scales in favour of installing Alfa Laval decanters.

4000 times the force of gravity

Most of the plants in the region employ ordinary tanks, where particles simply settle to the bottom. However, this method of coal tar recovery has obvious disadvantages. For example, the tar end-product contains quite a bit of water and is therefore expensive to



The Anshan Iron and Steel Group has modernized its coal tar recovery process and increased efficiency with the help of Alfa Laval decanter centrifuges.

transport. In addition when it is time to clean the tanks, workers are exposed to the carcinogenic substances.

Using decanters, Anshan Iron and Steel could employ a centrifugal force that can be up to 4000 times greater than the effect of gravity. Using a decanter would also eliminate the need to clean the tanks manually. Thus workers would be shielded, and this fit in well with Anshan Steel's corporate strategy of being an environmental leader in the region.

Fast Facts

The Customer

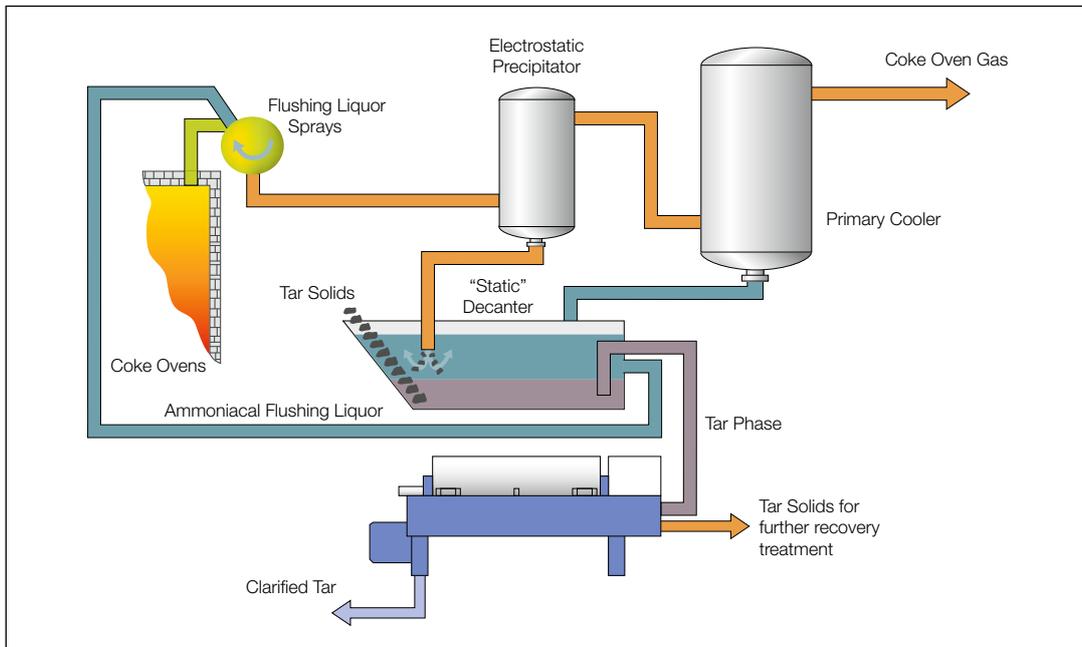
- Anshan Iron and Steel Group Corporation, located in eastern China
- Produces 30 millions tons of iron and steel annually
- 30,000 employees.

The Challenge

- Wanted to modernize the coal tar recovery process in its Coke Oven Gas plant where 2600 people are employed.

The Benefits

- The Alfa Laval decanter centrifuges now reduce the water content from 6 to 2 percent making the process:
 - More cost-efficient
 - Higher product output
 - More environmentally friendly.



Wanted: decanter experts, fluent in Chinese

It was important to Anshan Steel to find a partner they could carry on a technical dialogue with. People who spoke their native language and were located nearby. People who were actively interested in developing a relationship of mutual trust and cooperation. Plus, putting in decanters for coal tar recovery in the COG plant required a tailor-made implementation designed specifically for the task at hand. So Anshan Steel needed a provider with technical expertise and experience.

Anshan Steel knew that Alfa Laval met all the prerequisites. They had a worldwide presence that included a Chinese-speaking team close by. They prioritised relationships between customers and local sales and service teams. And they backed their local teams with any necessary technical support. Plus Alfa Laval had a long record of decanter expertise.

In the end, Anshan Steel's managing operator, Mr. Gu was more than pleased with Alfa Laval's contribution:

"We have actually learned a lot about separation technology and the general operation of decanter centrifuges

ourselves. And we're very satisfied with the way Alfa Laval have helped and supported us with starting up the units. And although you can't rush a decanter installation, it went relatively smooth and easy."

The dryer it is, the more they earn

Once the decanters were installed, the benefits quickly became apparent. The amount of particles in the tar was reduced from 3 to 0.3 percent, producing a more homogenous product. What's more, the amount of water in the coal tar was reduced from approximately 6 to 2 percent.

The result is a product that is cheaper to transport, has a higher level of dryness and is more homogenous, making it easier to process in the next stage. Consequently, the decanters are more cost-efficient in general, which in turn results in a higher output.

The technical process manager Mr. Zhang sums up the benefits:

"The Alfa Laval decanter allows us to produce tar with lower water content than before. So, we get higher product output per time/unit and at the end of the day, we get paid more for the product."



Mr. Zhang, the technical process manager, says: "The Alfa Laval decanter allows us to produce tar with lower water content than before."

About the Product

- The Alfa Laval decanter is designed specifically for the process industry where aggressive and erosive sludge is common
- Designed for jobs where liquids and solids are equally important
- Reduces power consumption, which results in lower operating costs
- Better process control, which means greater process efficiency, better product quality and increased profits

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.