



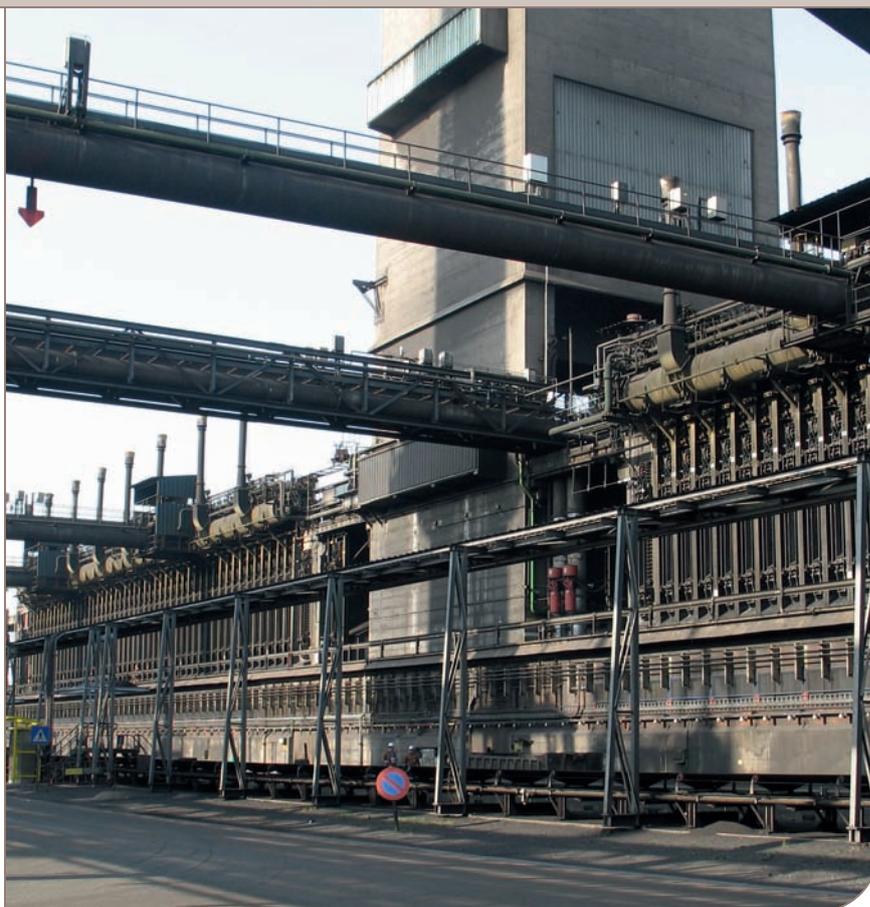
CHNX decanter improves tar recovery in Belgium

ArcelorMittal Gent, Belgium

Case story

In 2004, Belgium's ArcelorMittal Gent steel plant decided to replace a two-phase decanter for separation of coal tar in the tar recovery plant. For this difficult duty, involving erosive fluids, the company chose an Alfa Laval CHNX 418. Kenneth Vermaut, Production Manager, explains that the sealing on the casing was a critical factor since the aim was to minimise leakage. "By reducing leakage we have decreased the need for cleaning and reduced downtime. The decanter has also made the process cleaner and safer."

ArcelorMittal Gent (previously known as Sidmar) is a maritime and integrated steel producer with an annual output of nearly five million tons of crude steel. The plant also has a hot strip and cold rolling mill, with annual outputs of about 4,4 and 2,9 million tonnes, respectively. Located on the Ghent-Terneuzen channel, some 20 km from Ghent, ArcelorMittal Gent is the



Belgium's ArcelorMittal Gent steel plant has installed a CHNX 418 decanter from Alfa Laval for separation of coal tar in the tar recovery plant.

Alfa Laval CHNX 418 decanter

- Continuous dewatering of crystalline materials, fibrous and amorphous solids.
- Liquid clarification, solids concentration and classification.
- Average capacity for normal dewatering duties 3-15 m³/h
- Cost-effective performance
- Continuous operation and automatic control
- Compact, modular design

Design features

- Materials of construction: High-strength stainless steel contact parts machined from centrifugal castings.
- Automatic operation: The conveyor differential can be automatically controlled and monitored to maintain optimum product quality.
- Erosion protection features: Maintenance costs are reduced by the use of innovative wear resistant materials. This prolongs the service intervals.

largest private employer in the Belgian province of East Flanders, employing about 5,600 people.

New investment in coal tar recovery

In September 2004 Sidmar replaced an old tar decanter with an Alfa Laval CHNX 418 two-phase decanter for coal tar recovery. Prior to the decanter there are 3 static decanters to remove larger solid particles. After the static decanter there is a conical tar separator to separate the water and the tar. The bottom tar phase

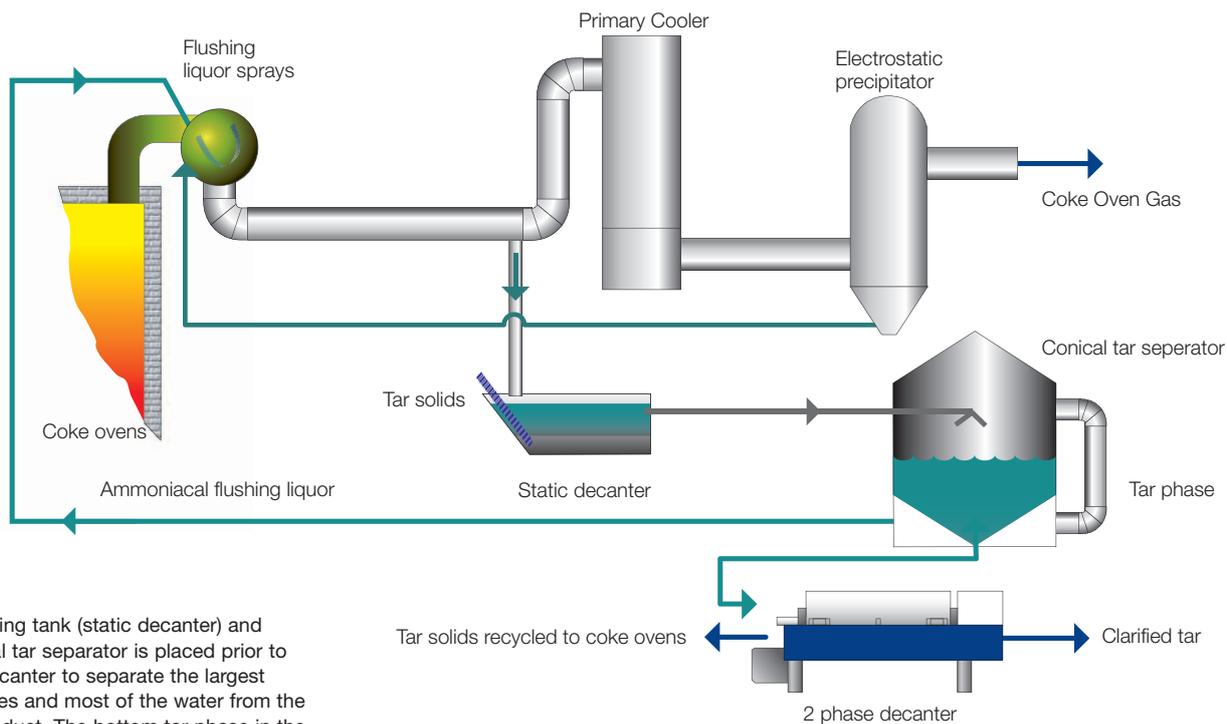
of the tar separator is then pumped to the decanter for further clarification.

Kenneth Vermaut, Production Manager at the coking plant, relates that the main criteria in his choice of supplier were price, quality, and the type of sealing on the casing of the decanter.

'We chose quality from the start'

"Coal tar separation is a difficult duty due to the erosive fluids involved, and decanters normally require a few days of

Process layout for coal tar recovery



A settling tank (static decanter) and conical tar separator is placed prior to the decanter to separate the largest particles and most of the water from the tar product. The bottom tar phase in the conical tar separator is then pumped to the decanter for further clarification.

installation and fine tuning to the process before working according to the specification. The problem was that we could not run without a tar decanter for more than 8 hours, so the start up needed to be fast. Therefore we decided at an early stage to go for a high quality product from a reputable supplier. Alfa Laval is

known for its high performance and service to customers.”

Kenneth Vermaut already has experience of Alfa Laval as a supplier with Alfa Laval equipment in service in various areas of the coke plant. There are 20 spiral heat exchangers installed in the desulphurisa-

tion plant, for example.

Reduced downtime, increased safety

“In this project,” says Kenneth Vermaut, “our aim was to minimise leakage from the machine and increase overall safety in the plant. Therefore the type of sealing was critical. By reducing leakage we have also reduced the need for cleaning and, in turn, downtime.

“In addition, after installing the decanter the amount of QI:s in the tar product has been reduced from 2 to less than 1.5%, producing an end product with fewer solids and better processability.”

Mr Vermaut adds that the project was entirely successful. “In the beginning there were some problems with vibration and the life-time of the sealing elements. However, Alfa Laval worked closely with us to solve these and today the coal tar decanter is giving us problem-free running. All-in-all, we are very satisfied.”



Alfa Laval CHNX 418 two-phase decanter installed at ArcelorMittal Gent for coal tar recovery.

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.