



Coal tar - from by-product to value product with decanter centrifuges

OAO "Koks", Kemerovo, Russia

case story



OAO "Koks" is a Russian industrial group of several technologically integrated companies that produce high-quality coking coal and coal concentrates, as well as metallurgical coke and pig iron.

Situated in Kemerovo – the largest industrial region in Siberia – OAO "Koks" operates the second-largest coking plant in Russia. The region is well known for its extensive natural resources, and contains 67% of Russia's coking coal reserves. The area is also rich in iron ore, and 23% of Russia's output of rolled steel products is manufactured here.

Supplying local and export markets

The OAO "Koks" plant in Kemerovo produces more than 2.1 million tons of coke annually, supplying both the local iron and steel industry and export markets. As a by-product of its coke production, OAO "Koks" produces 200,000 m³ of coal tar annually. This is mainly used to produce pitch, which is widely used as a binder in manufacturing graphite electrodes.

Crude coal tar from the coke oven gas purification plant contains up to 10% ammoniacal water and 15% suspended solids. These solids must be removed to make the tar sufficiently homogenous to be stored and transported without the

particles settling. This is an important factor because tar is carcinogenic, and cleaning tanks manually is therefore prohibited in many countries. In addition, particles larger than 70 µm in diameter must be removed to prevent wear on downstream equipment.

The ammoniacal water must also be removed from the coal tar to make it suitable for distillation and for use as fuel. Producing high-quality distillate tar as a by-product can make an important contribution to the overall profits of a coke oven gas plant.

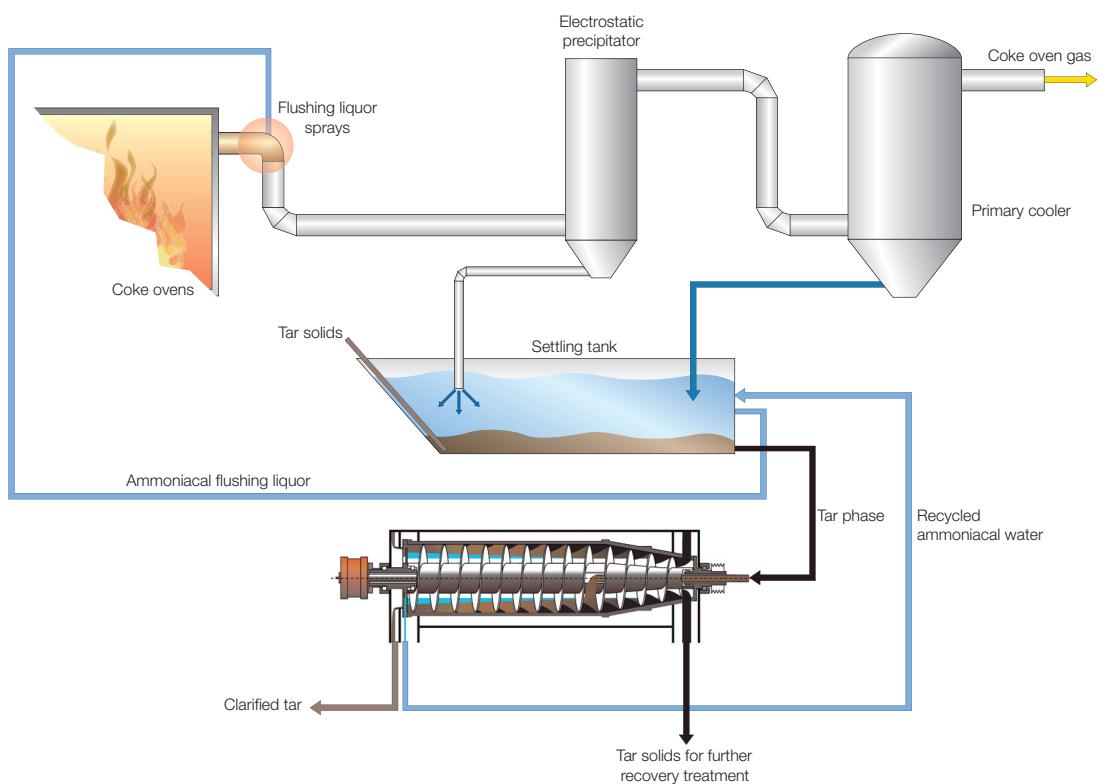
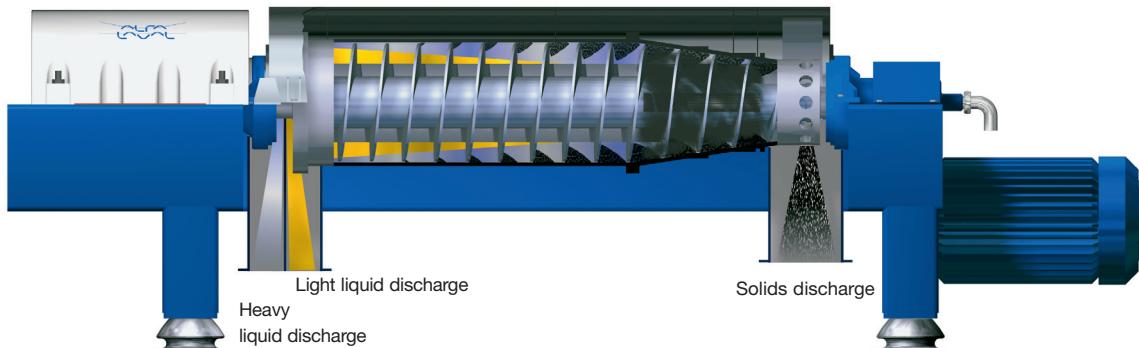
Meeting demands with decanters

In 2002, OAO "Koks" installed two three-phase Alfa Laval decanter centrifuges in the tar recovery section of the Kemerovo plant. These are used for dewatering the coal tar and removing solids at the same time.

When legislation regarding the ash content in the tar became more stringent, Alfa Laval replaced one of these decanter centrifuges with a new model, specifically designed to meet the new requirement. This has enabled the company to market a coal tar product with guaranteed high-quality specifications.

"The new three-phase Alfa Laval decanter enabled us to reduce the tar ash content to below the required 0.15%", says Mr V. A. Chumarov, head of the by-products plant. "It also significantly improved the quality of the tar. This means we can now prevent the build-up of sediments in storage facilities and railway tank cars, thus making both storage and transport much easier."

Decanter centrifuge – 3-phase Operation Function



How to contact Alfa Laval

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