State-of-the-art explosion protection for dedusting of coal grinding plants

Extract from the technical publication: ZKG; 11/2010

With dedusting of coal grinding plants, the state of the technology is determined by the explosion protection measures, the filtration performance and the design of the plant. To ensure safe operation of a plant, only certified and tested concepts and components should be used for its design and manufacture. With plants protected against explosion, such issues will always affect the plant's resistance, its explosion relief venting and its explosion decoupling systems. Economic factors, where the aim is minimising the filter level and lean design, should not be forgotten with dedusting too and it is important that plants are aligned to the latest state of technological development.

With their years of experience and continuing development in the area of dedusting for coal grinding plants, Intensiv-Filter and Thorwesten Vent have succeeded in implementing the state of the art.

Coal, as a combustible, finely-ground dust, and when dispersed into air or exhaust gas with a sufficient proportion of oxygen, it forms an explosive mixture. Even if the coal is generally ground under inert conditions, permissible oxygen concentrations may still be exceeded under start-up or shut-down conditions or in case of malfunctions. In the cement industry - unlike in the steel industry for instance - sufficient inert gases to enable additional inertisation of the plant are not available from the process or else they can only be realised using very cost-intensive measures. Safety of the plant therefore needs to be achieved by incorporating explosion protection measures into its design. With this, all plant components (mill, pipeline, filter) are designed to be pressure shock resistant to reduce explosion pressure, as well as being equipped with decoupling systems and relief devices.

Jet-pulse bag filters currently represent the latest state of development with dedusting plants for coal grinding plants. These have a high level of separation efficiency leading to reduced product losses with low operating costs at the same time. For reasons of safety and environment, electrostatic filters are now no longer used.

This article describes the latest state of technological development for the design of dedusting in coal grinding plants, as well as relevant safety requirements.

The entire technical publication and other publications can be found under www.intensiv-filter.com
STAHL 2010 – We were present

On Thursday, 11.11.2010, the steel industry met at the annual steel meeting and gathered information in lectures and with the exhibitor. Intensiv-Filter took the 150th anniversary of the steel institute VDeh as an occasion to inform about the newest developments in the dust removal technology. The grand interest of the audience confirmed the future-oriented solutions for filter plants of Intensiv-Filter. These are completely dedicated to reduction of operating costs and energy optimisation.

CIP filter technology on the IDF 2010

More than 2,000 guests from the international milk association visited the congress of the international world dairy association (IDF) in Auckland, New Zealand.

Intensiv-Filter informed with a poster presentation about the new developments of the ProJet CIP. With the Intensiv-Filter’s ProJet CIP filters, the exhaust air of the spray drying process is filtered with highest efficiency to avoid product loss. Thanks to the fully automatic cleaning of the filters, the installations are highly flexible which allows for both continuous and batch production of any kind of spray dryer products. The CIP-able bag filters enable maximum product recovery and as the separated product can be recycled into the manufacturing process, the investment has very short payback time.

The next IDF is from the October 15th to 19th, 2011 in Parma, Italy.

New filter plant of the type ProJet mega® in the Ukraine

In 2009, the cement manufacturer Doncement, a company of the HeidelbergCement group, gave Intensiv-Filter the order for a bag filter including fans and dust transport system for the dust removal of the rotary kiln line 7. The bag filter should substitute the two existing electrostatic precipitators. A few weeks ago the new filter plant was put into operation.

The operation of the efficient bag filter plant will substantially improve the capacity and efficiency. Intensiv-Filter was responsible for the construction, manufacturing and supervision of the assembly as well as commissioning of the installation. The bag filter is designed for a gas volume of approx. 600,000 m³/h a.c. and equipped with 8-m-long filter bags. It is operated with a fully automatic cleaning control system. In addition to the process filter Intensiv-Filter delivered 2 cement mill filters with 22,000 m³/h a.c.

On account of the successful cooperation, a new order for the dust removal of the kiln line 8 was meanwhile committed to Intensiv-Filter. This bag filter will be commissioned next summer.

Merry Christmas and a happy 2011

The year comes to an end and we look back at 2010 rich in event. Now, in the christmas time, there remain opportunities to the review and time to scoop strength for new.

With this Christmas greeting the management board and the whole team of Intensiv-Filter would like to thank you: For the pleasant and good cooperation. For the showed trust. For the successful partnership.

To the forthcoming Christmas party we wish you, your employees and family members a contemplative and restful time as well as a New Year in the best health and satisfaction.